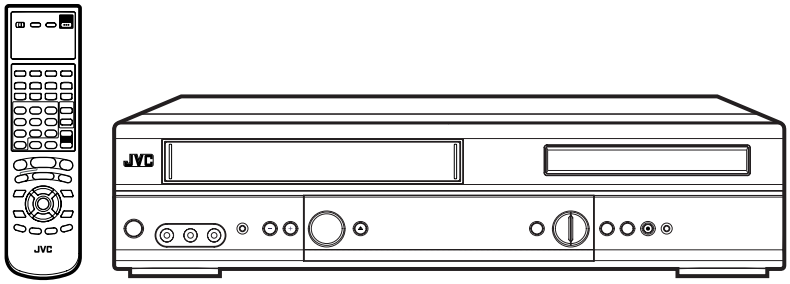
JVC

SERVICE MANUAL

DVD PLAYER Hi-Fi VIDEO CASSETTE RECORDER

HR-XV1EK, HR-XV1EU-C, HR-XV1EU-S, HR-XV1EU-Y



SPECIFICATIONS *(The specifications shown pertain specifically to the model HR-XV1EU-C.)*

GENERAL

Power supply:	AC 230V 50Hz
Power consumption:	Operation: 22W Stand by: 5W
Weight:	4.5 kg
Dimensions:	Width : 430 mm Height: 99 mm Depth : 310.5 mm
Input Level:	SCART-socket: VIDEO: 1 Vp-p, 75Ω AUDIO: 500 mV, 50 kΩ Audio IN jack: 500 mV, 50 kΩ
Output Level:	SCART-socket: VIDEO: 1 Vp-p, 75Ω AUDIO: 500 mV, 1 kΩ Audio OUT jack: 500 mV, 1 kΩ
Hi-Fi Frequency Response:	20Hz to 20,000Hz
Hi-Fi Dynamic Range:	More than 75dB

VCR section

Video Head:	4 Rotary Heads
Audio Track:	Hi-Fi Sound - 2 Tracks / MONO Sound - 1 Track
Channel covevage:	2-12, X, Y, Z, S1-S41, 21-69
RF Channel Output:	UHF channel 36 (23 to 69)
F.FWD/REW Time at 25˚C:	Approx. 1minute and 48 seconds (with E-180 Cassette Tape)

DVD section

Signal system:	PAL
Applicable disc:	DVD (12cm, 8cm), CD (12cm, 8cm)
Audio characteristics:	DVD: 4Hz - 22KHz
Frequency response:	CD: 4Hz - 20KHz
S/N Ratio:	90dB
Harmonic distortion:	1%
Wow and flutter:	Below Measurable Level
Dynamic range:	90dB
Output:	Audio : (RCA) 500 mV, 1Kohm Digital Audio : 0.5Vp-p/75 ohm
Pickup:	CD : Wavelength: 775 - 805 nm Maximum output power: 0.5 mW DVD : Wavelength: 640 - 660 nm Maximum output power: 1.0 mW

ACCESSORIES: Remote control x 1
75 ohm Coaxial Cable x 1
Battery (UM-3) x 2

V14PV1

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The following table lists the differing points between models HR-XV1EK, HR-XV1EU-C, HR-XV1EU-S and HR-XV1EU-Y.

ITEM \ MODEL	HR-XV1EK	HR-XV1EU-C	HR-XV1EU-S	HR-XV1EU-Y
BROADCASTING STANDARD	I	B/G	←	←
POWER SOURCE	230~240V,50Hz	230V,50Hz	←	←
AUTO TUNER SETTING	NOT USED	USED	←	←
SCENE REPLAY	NOT USED	USED	←	←
GUIDE CH. SET	USED	NOT USED	←	←
DECODER(AV2)	NOT USED	USED	←	←
VPS	NOT USED	USED	←	←
CATV	NOT USED	USED	←	←
INSTRUCTION LANGUAGE	ENGLISH	EN, FR, GE, DU, GR	GE, FR, IT, SP, PT	GE, SW, NO, DA, FI

Notes: Mark ← is same as left.

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

●Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded ( ) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape 3) Spacers 5) Barrier
   2) PVC tubing 4) Insulation sheets for transistors

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

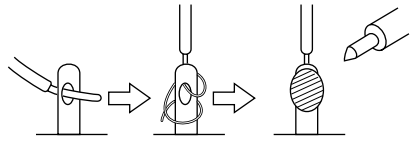


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

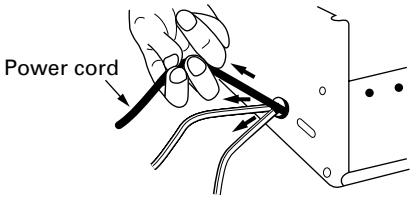


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

    1) **Connector part number :** E03830-001
    2) **Required tool :** Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

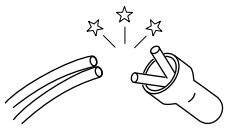


Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

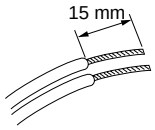


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

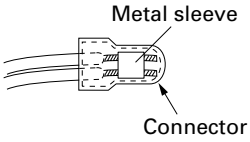


Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

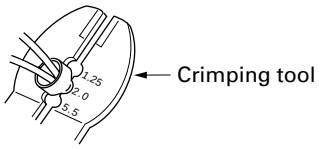


Fig.6

(5) Check the four points noted in Fig.7.

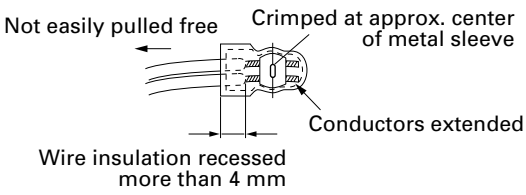

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

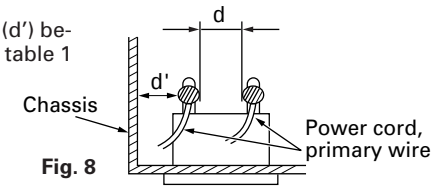


Fig. 8

4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

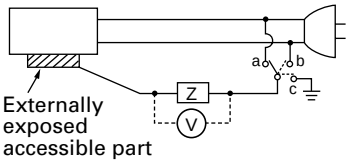


Fig. 9

5. Grounding (Class Ⅰ model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

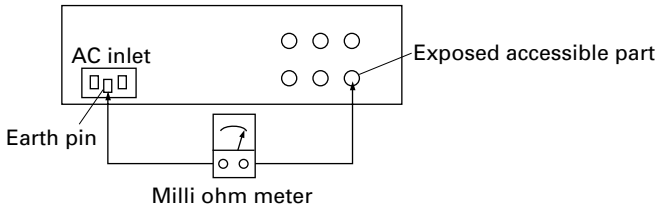


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦ R ≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

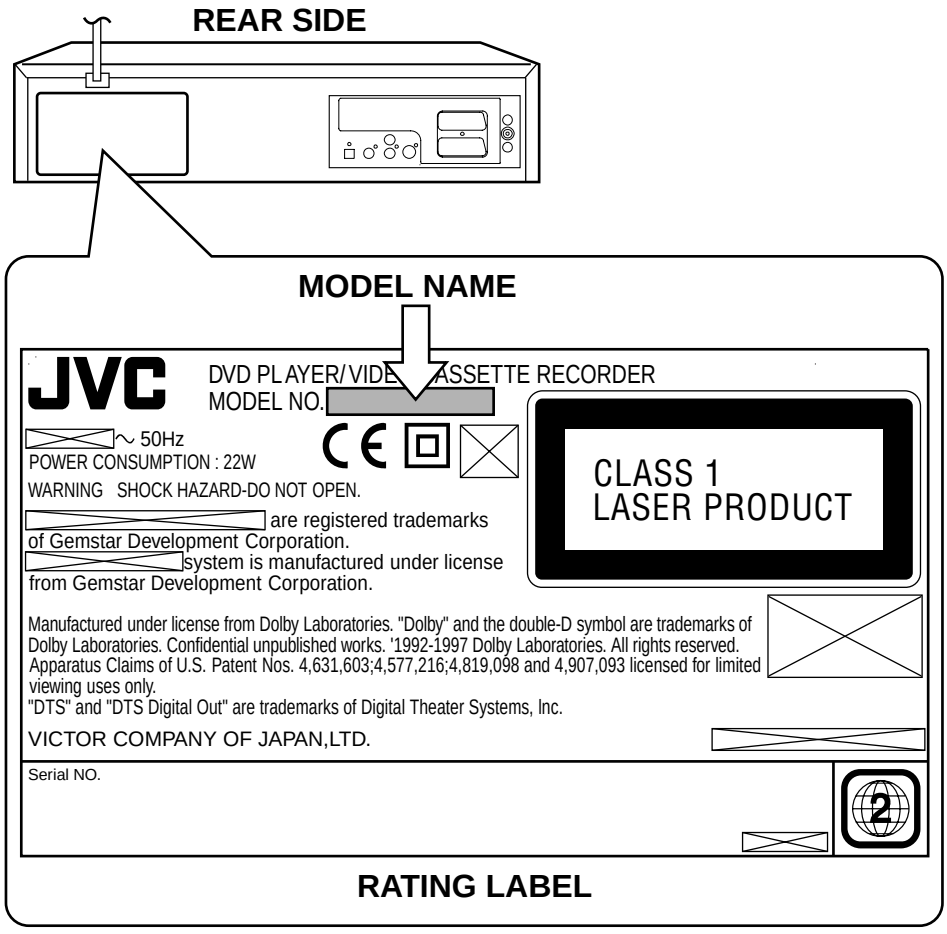
AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

HOW TO IDENTIFY MODELS

How to recognize from the appearance of the model concerned is written below.
Please distinguish from several contents currently printed on the rating label.


REAR SIDE
MODEL NAME
JVC
DVD PLAYER/ VIDEO CASSETTE RECORDER
MODEL NO.
50Hz
POWER CONSUMPTION : 22W
WARNING SHOCK HAZARD-DO NOT OPEN.
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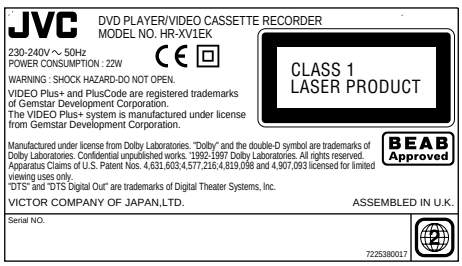
Serial NO.
RATING LABEL

HR-XV1EK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DVD PLAYER/VIDEO CASSETTE RECORDER
MODEL NO. HR-XV1EK
230-240V ~ 50Hz
POWER CONSUMPTION : 22W
WARNING : SHOCK HAZARD-DO NOT OPEN.
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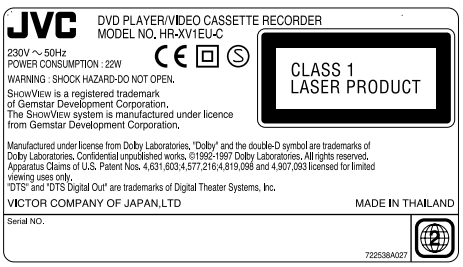
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DVD PLAYER/VIDEO CASSETTE RECORDER
MODEL NO. HR-XV1EU-C
230V ~ 50Hz
POWER CONSUMPTION : 22W
WARNING : SHOCK HAZARD-DO NOT OPEN.
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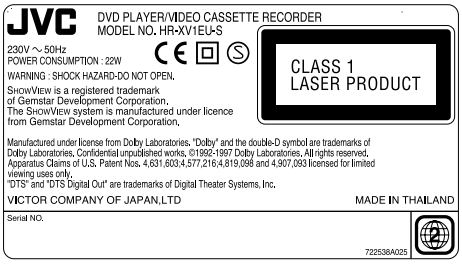
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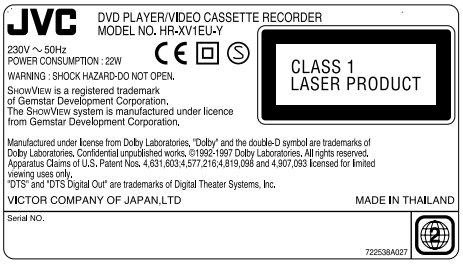
HR-XV1EU-Y


JVC
DVD PLAYER/VIDEO CASSETTE RECORDER
MODEL NO. HR-XV1EU-Y
230V ~ 50Hz
POWER CONSUMPTION : 22W
WARNING : SHOCK HAZARD-DO NOT OPEN.
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The SHOWVIEW system is manufactured under licence from Gemstar Development Corporation.
CLASS 1
LASER PRODUCT
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VICTOR COMPANY OF JAPAN,LTD
MADE IN THAILAND
Serial NO.
722538A027

DISASSEMBLY INSTRUCTIONS

1. REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

1-1: TOP CABINET AND FRONT CABINET (Refer to Fig. 1-1)

1. Remove the 5 screws ①.
2. Remove the Top Cabinet in the direction of arrow (A).
3. Disconnect the following connector: (CP681).
4. Unlock the 8 supports ②.
5. Remove the Front Cabinet in the direction of arrow (B).
6. Remove the 3 screws ③.
7. Remove the Operation PCB in the direction of arrow (C).

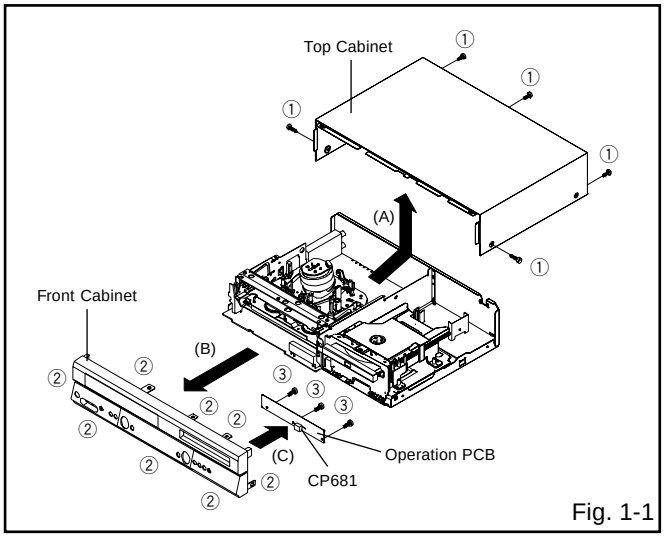


Fig. 1-1

1-2: FLAP (Refer to Fig. 1-2)

1. Open Flap to 90˚ and flex in direction of arrow (A), at the same time slide in direction of arrow (B).
2. Then lift in direction of arrow (C).

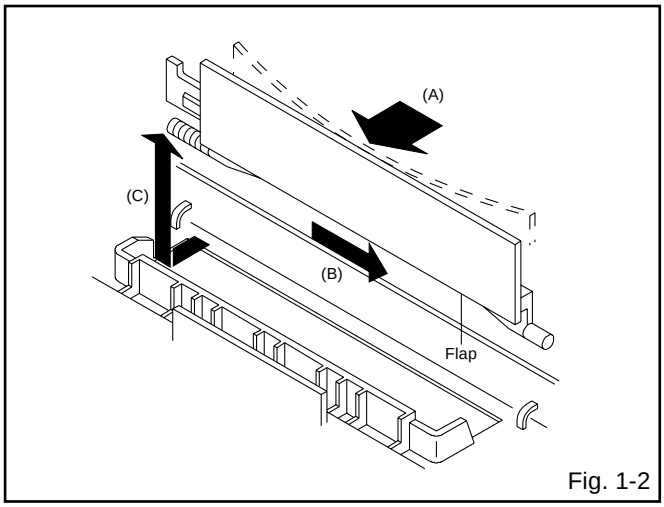


Fig. 1-2

1-3: DECK CD AND DVD PCB (Refer to Fig. 1-3)

1. Make the short circuit on the position as shown Fig. 1-3 using a soldering. If you remove the Deck CD with no soldering, the Laser may be damaged.
2. Disconnect the following connectors: (CP503,CP8001 and CP8002).
3. Remove the 4 screws ①.
4. Remove the Deck Angle in the direction of arrow (A).
5. Remove the 2 screws ②.
6. Remove the Front-DVD Shield in the direction of arrow (B).
7. Remove the 4 screws ③.
8. Disconnect the following connectors: (CP2601, CP2602 and CP2603).
9. Remove the Deck CD in the direction of arrow (C).
10. Remove the 4 screws ④.
11. Remove the DVD PCB in the direction of arrow (D).

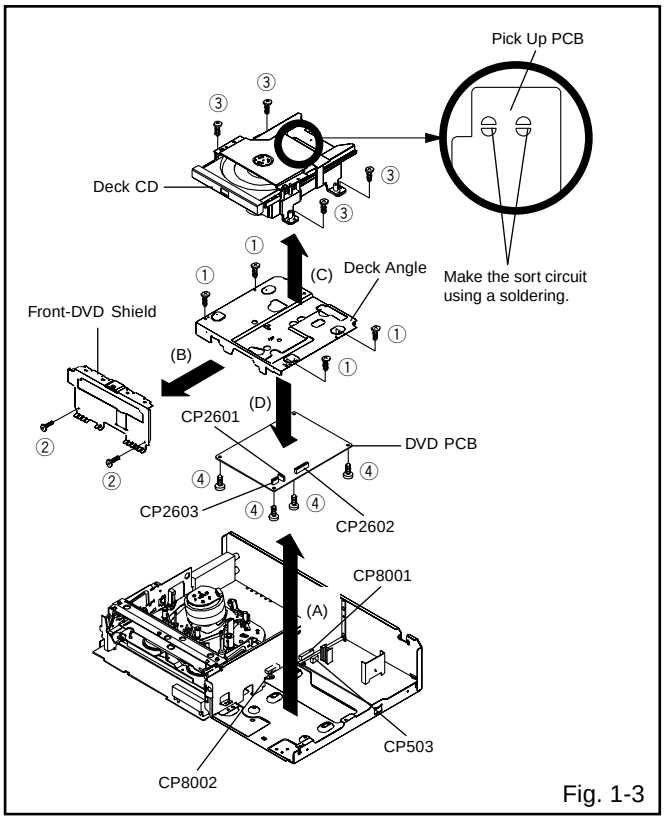


Fig. 1-3

NOTE

When the installation of the Deck CD, remove all the soldering on the short circuit position after the connection of Pick Up PCB and DVD PCB connector.

DISASSEMBLY INSTRUCTIONS

1-4: POWER PCB (Refer to Fig. 1-4)

1. Disconnect the following connector: (CP1701).
2. Remove the 3 screws ①.
3. Remove the Power PCB in the direction of arrow.

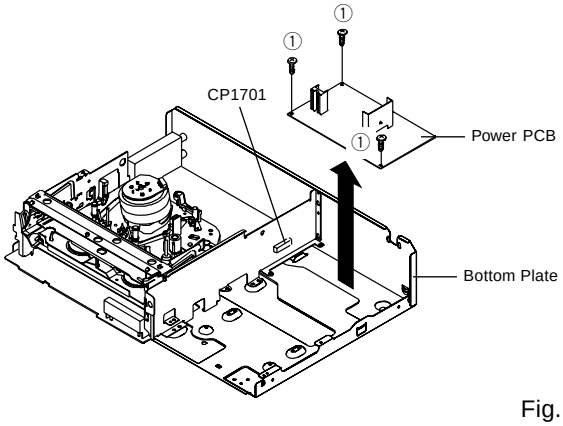


Fig. 1-4

1-5: VCR DECK (Refer to Fig. 1-5)

1. Unlock the 2 supports ① and remove the Top Holder.
2. Remove the 3 screws ②.
3. Disconnect the following connectors: (CP101, CP102, CP103 and CP3001).
4. Remove the AC Head Cover and VCR Deck in the direction of arrow.

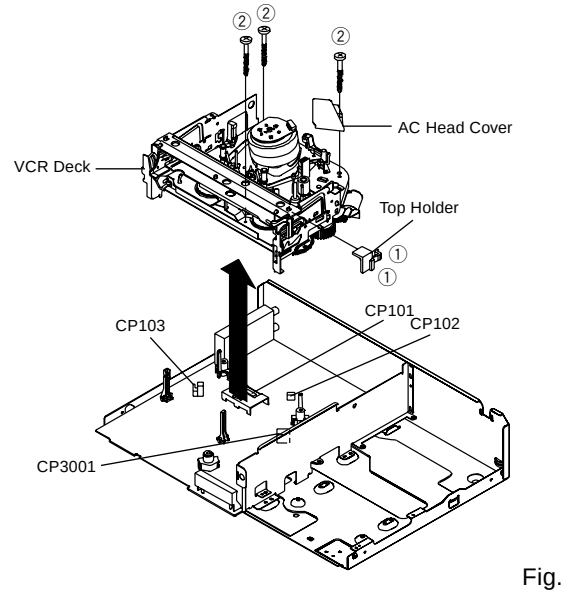


Fig. 1-5

1-6: VCR PCB (Refer to Fig. 1-6)

1. Remove the screw ① and Fiber Washer.
2. Remove the 6 screws ②.
3. Remove the VCR PCB in the direction of arrow.

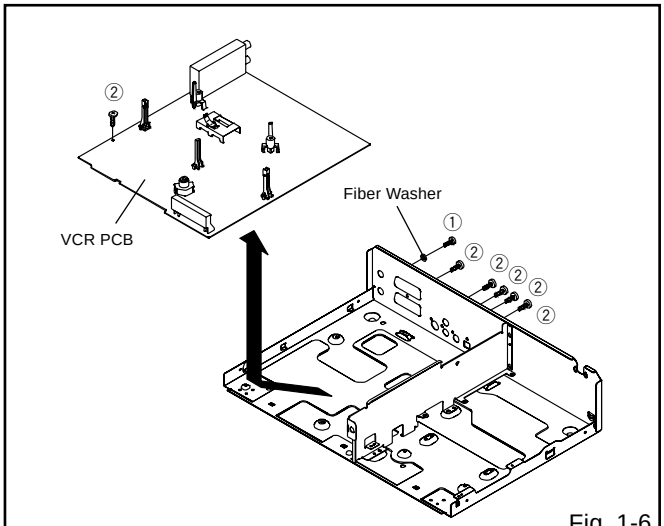


Fig. 1-6

DISASSEMBLY INSTRUCTIONS

2. REMOVAL OF VCR DECK PARTS

2-1: TOP BRACKET (Refer to Fig. 2-1)

1. Extend the 2 supports ①.
2. Slide the 2 supports ② and remove the Top Bracket.

NOTE

1. After the installation of the Top Bracket, bend the support ① so that the Top Bracket is fixed.

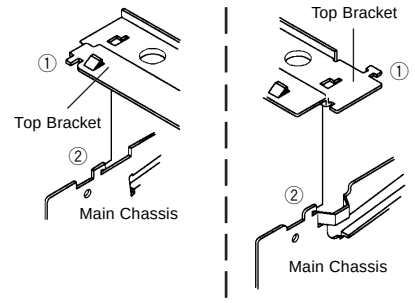


Fig. 2-1

2-2: CASSETTE HOLDER ASS'Y (Refer to Fig. 2-2)

1. Move the Cassette Holder Ass'y to the front side.
2. Push the Locker R to remove the Cassette Side R.
3. Remove the Cassette Side L.

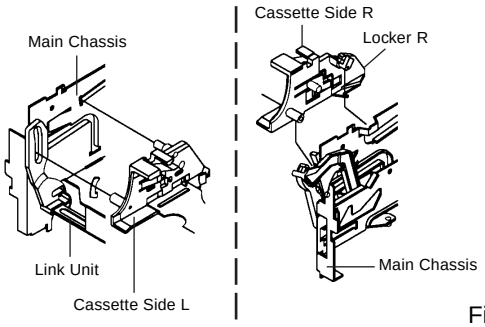


Fig. 2-2

2-3: CASSETTE SIDE L/R (Refer to Fig. 2-3-A)

1. Remove the Locker Spring.
2. Unlock the 4 supports ① and then remove the Cassette Side L/R.
3. Unlock the support ② and then remove the Locker R.

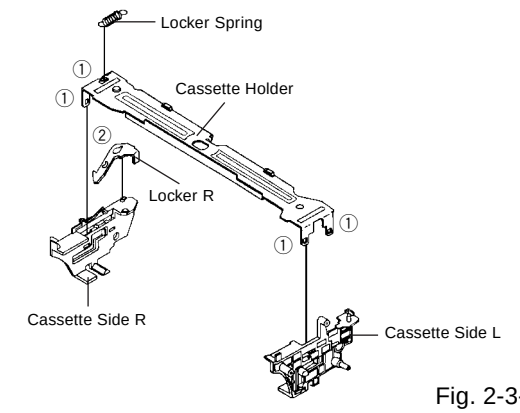


Fig. 2-3-A

NOTE

1. In case of the Locker R installation, check if the two positions of Fig. 2-3-B are correctly locked.
2. When you install the Cassette Side R, be sure to move the Locker R after installing.

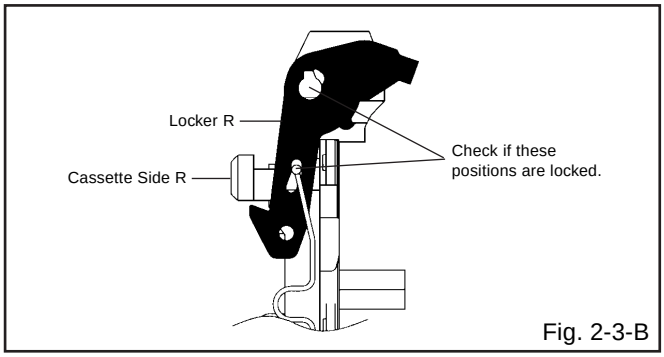


Fig. 2-3-B

2-4: LINK UNIT (Refer to Fig. 2-4)

1. Set the Link Unit to the Eject position.
2. Unlock the support ①.
3. Remove the (A) side of the Link Unit first, then remove the (B) side.

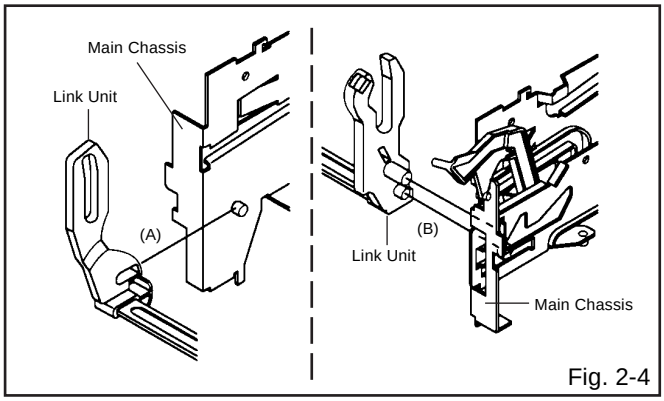


Fig. 2-4

2-5: LINK LEVER/FLAP LEVER (Refer to Fig. 2-5)

1. Extend the support ①.
2. Remove the Link Lever.
3. Remove the Flap Lever.

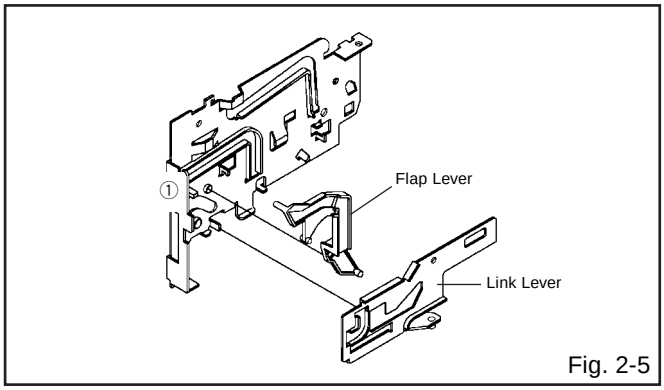


Fig. 2-5

DISASSEMBLY INSTRUCTIONS

2-6: LOADING MOTOR/WORM (Refer to Fig. 2-6-A)

1. Remove the screw ①.
2. Remove the Loading Motor.
3. Remove the Worm.

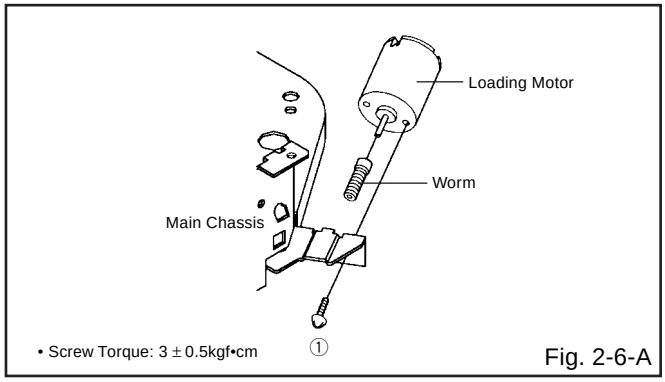


Fig. 2-6-A

NOTE

1. In case of the Worm installation, check if the value of the Fig. 2-6-B is correct.
2. In case of the Loading Motor installation, hook the wire on the Cassette Opener as shown Fig. 2-6-C.
3. When installing the wires between Capstan DD Unit and Loading Motor, connect them correctly as shown Fig. 2-6-D.

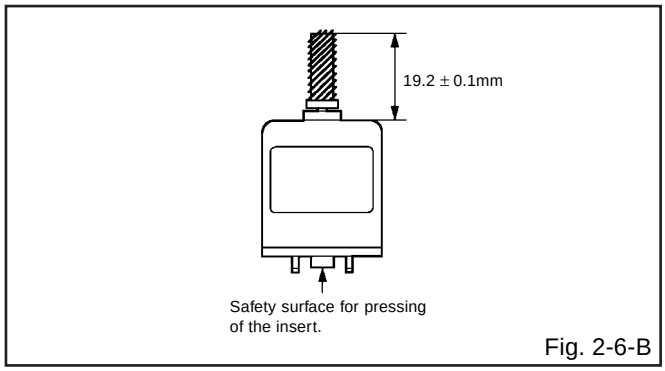


Fig. 2-6-B

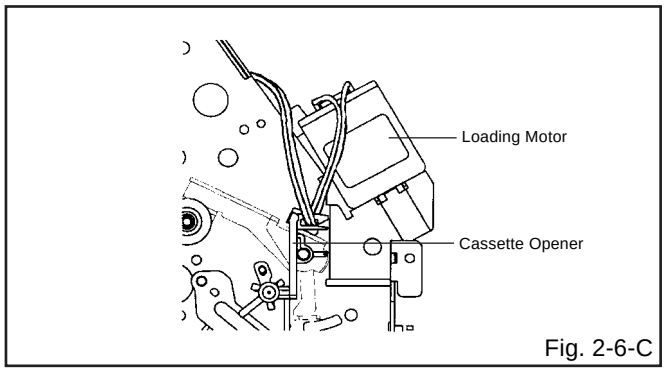


Fig. 2-6-C

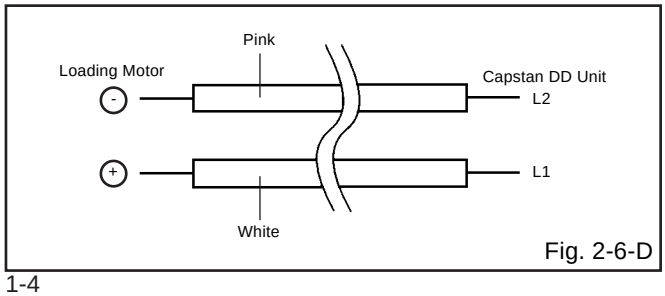


Fig. 2-6-D

2-7: TENSION ASS'Y (Refer to Fig. 2-7-B)

1. Turn the Pinch Roller Cam clockwise so that the Tension Holder hook is set to the position of Fig. 2-7-A to move the Tension Arm Ass'y.
2. Remove the Tension Spring.
3. Unlock the 2 supports ① and remove the Tension Band.
4. Unlock the support ② and remove the Tension Arm Ass'y.
5. Unlock the support ③ and remove the Tension Connect.
6. Float the hook ④ and turn it clockwise then remove the Tension Holder.

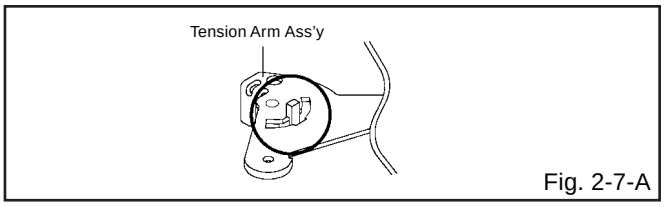


Fig. 2-7-A

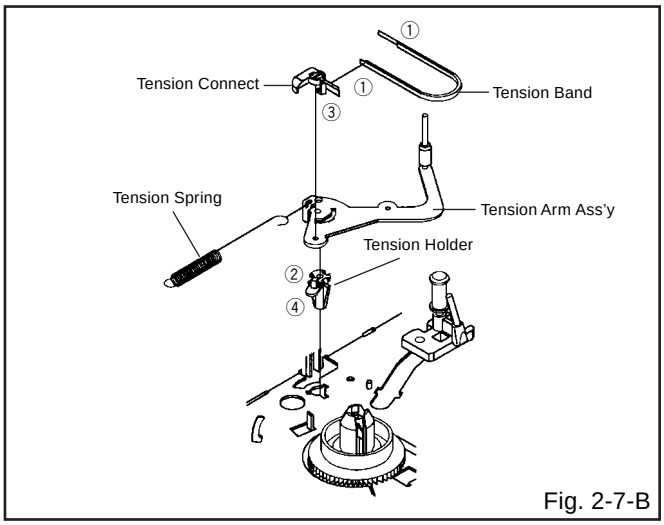


Fig. 2-7-B

NOTE

1. In case of the Tension Band installation, note the direction of the installation. **(Refer to Fig. 2-7-C)**
2. In case of the Tension Band installation, install correctly as Fig. 2-7-D.
3. In case of the Tension Connect installation, install as the circled section of Fig. 2-7-E.

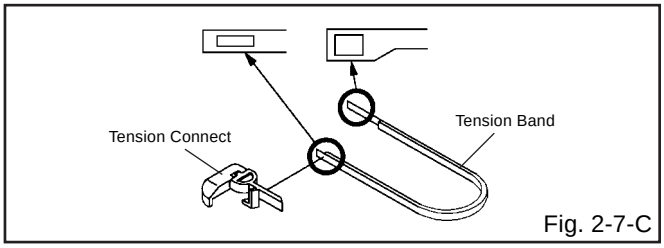


Fig. 2-7-C

DISASSEMBLY INSTRUCTIONS

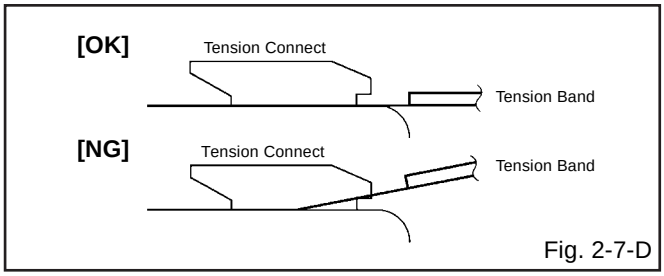


Fig. 2-7-D

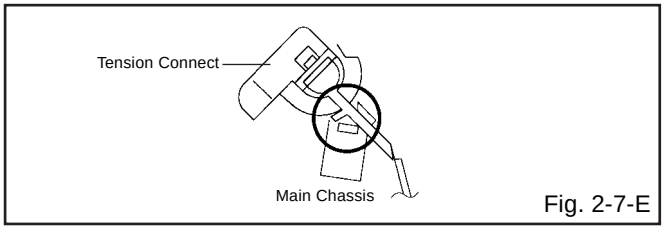


Fig. 2-7-E

2-8: T BRAKE ARM/T BRAKE BAND (Refer to Fig. 2-8-A)

1. Remove the T Brake Spring.
2. Turn the T Brake Arm clockwise and bend the hook section to remove it.
3. Unlock the 2 supports ① and remove the T Brake Band.

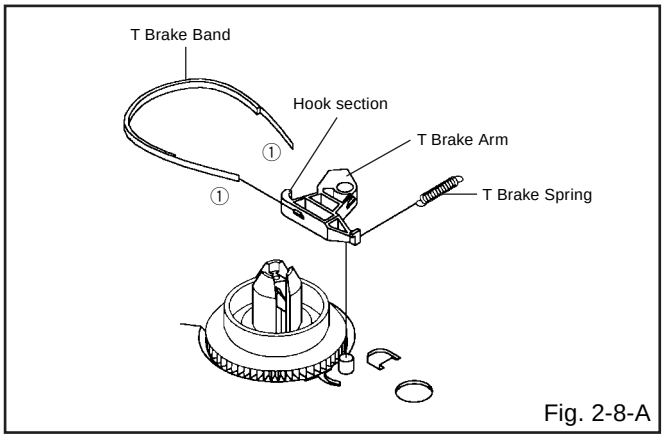


Fig. 2-8-A

NOTE

1. In case of the T Brake Band installation, install correctly as Fig. 2-8-B.

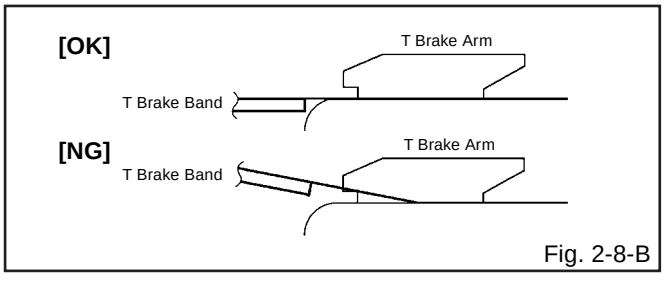


Fig. 2-8-B

2-9: S REEL/T REEL/IDLER ARM ASS'Y/IDLER GEAR (Refer to Fig. 2-9-A)

1. Remove the S Reel and T Reel.
2. Remove the 2 Polyslider Washers ①.
3. Remove the Idler Arm Ass'y and Idler Gear.

NOTE

1. Take care not to damage the gears of the S Reel and T Reel.
2. The Polyslider Washer may be remained on the back of the reel.
3. Take care not to damage the shaft.
4. Do not touch the section "A" of S Reel and T Reel. (Use gloves.) **(Refer to Fig. 2-9-A)** Do not adhere the stains on it.
5. When you install the reel, clean the shaft and grease it (FG-84M). (If you do not grease, noise may be heard in FF/REW mode.)
6. After installing the reel, adjust the height of the reel. **(Refer to MECHANICAL ADJUSTMENT)**

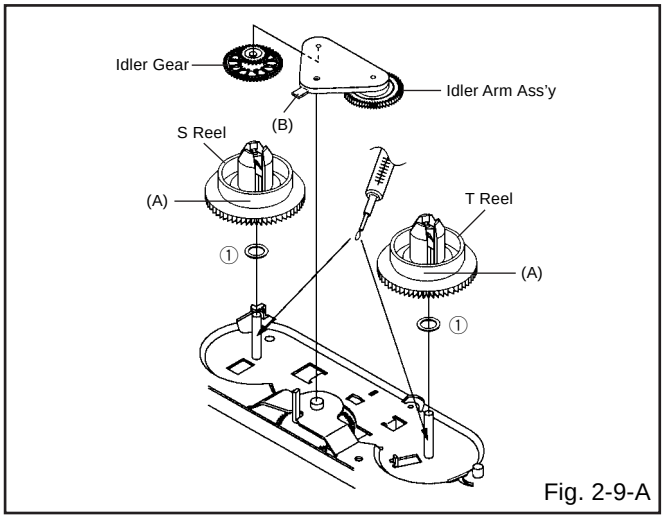


Fig. 2-9-A

NOTE

1. In case of the S Reel and T Reel installation, check if the correct parts are installed. **(Refer to Fig. 2-9-B)**
2. In case of the Idler Arm Ass'y installation, install correctly as Fig. 2-9-C. And also set it so that the section "B" of Fig. 2-9-A is placed under the Main Chassis tab.

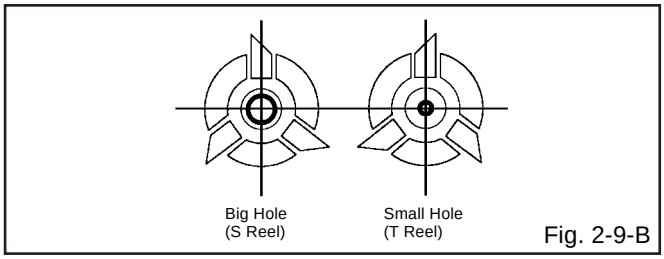


Fig. 2-9-B

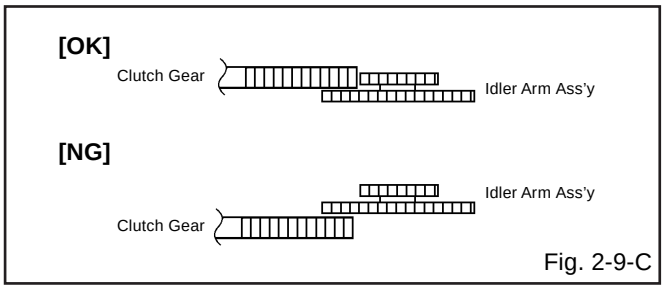


Fig. 2-9-C

DISASSEMBLY INSTRUCTIONS

2-10: CASSETTE OPENER/PINCH ROLLER BLOCK/P5 ARM ASS'Y (Refer to Fig. 2-10-A)

1. Unlock the support ① and remove the Cassette Opener.
2. Remove the Pinch Roller Block and P5 Arm Ass'y.

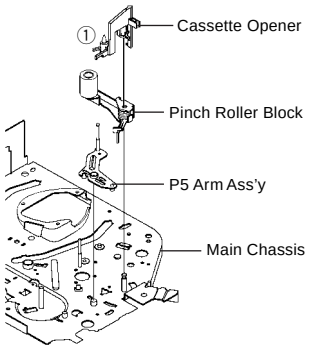


Fig. 2-10-A

NOTE

1. Do not touch the Pinch Roller. (Use gloves.)
2. In case of the Pinch Roller Block and the Pinch Roller Cam installation, install correctly as Fig. 2-10-B.

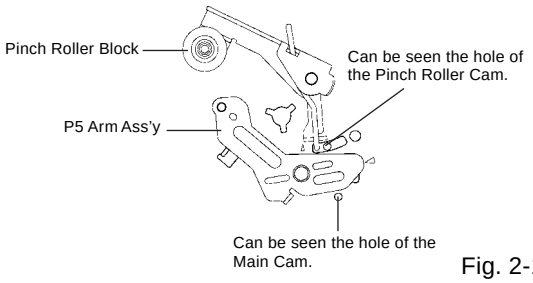


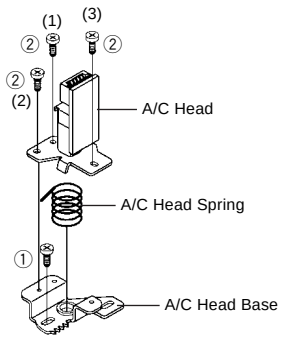
Fig. 2-10-B

2-11: A/C HEAD (Refer to Fig. 2-11-A)

1. Remove the screw ①.
2. Remove the A/C Head Base.
3. Remove the 3 screws ②.
4. Remove the A/C Head and A/C Head Spring.

NOTE

1. Do not touch the A/C Head. (Use gloves.)
2. When you install the A/C Head Spring, install as shown in Fig. 2-11-B.
3. When you install the A/C Head, tighten the screw (1) first, then tighten the screw (2), finally tighten the screw (3).



• Screw Torque: 5 ± 0.5kgf•cm (Screw ①)

Fig. 2-11-A

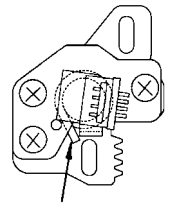
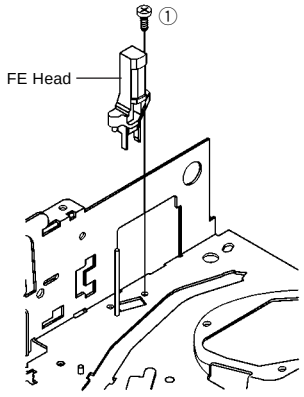


Fig. 2-11-B

2-12: FE HEAD (RECORDER ONLY) (Refer to Fig. 2-12)

1. Remove the screw ①.
2. Remove the FE Head.



• Screw Torque: 5 ± 0.5kgf•cm
• The FE Head is not installed on the Video Cassette Player.

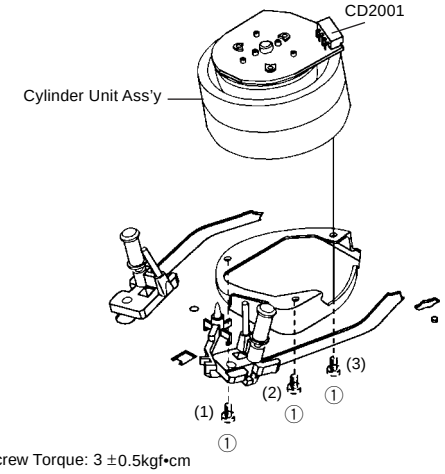
Fig. 2-12

2-13: CYLINDER UNIT ASS'Y (Refer to Fig. 2-13)

1. Disconnect the following connector: (CD2001)
2. Remove the 3 screws ①.
3. Remove the Cylinder Unit Ass'y.

NOTE

1. When you install the Cylinder Unit Ass'y, tighten the screws from (1) to (3) in order while pulling the Ass'y toward the left front direction.



• Screw Torque: 3 ±0.5kgf•cm

Fig. 2-13

DISASSEMBLY INSTRUCTIONS

2-14: CAPSTAN DD UNIT (Refer to Fig. 2-14-A)

1. Remove the Capstan Belt.
2. Remove the 3 screws ①.
3. Remove the Capstan DD Unit.

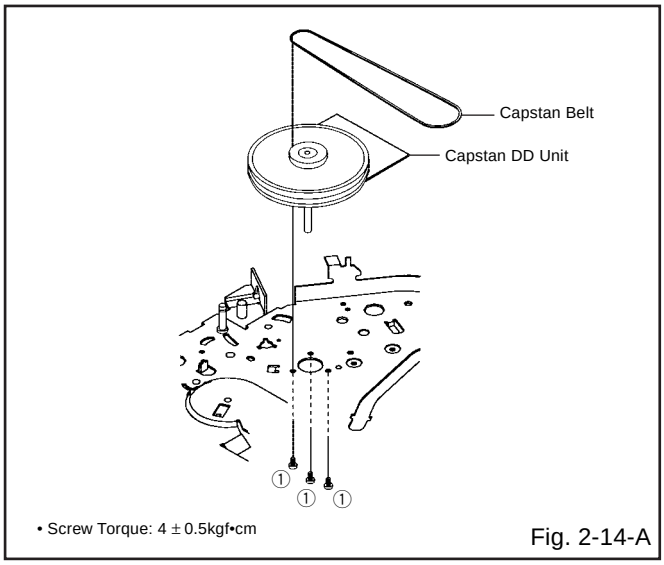


Fig. 2-14-A

NOTE

1. In case of the Capstan DD Unit installation, apply the silicon bond (TSE3843-W) on the position Fig. 2-14-B correctly. (If no silicon bond applied, abnormal noise will be heard on the deck operation.) **(Refer to Fig. 2-14-B, C)**

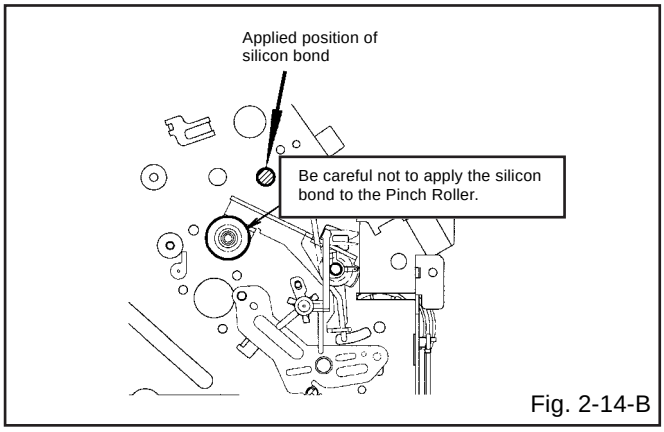


Fig. 2-14-B

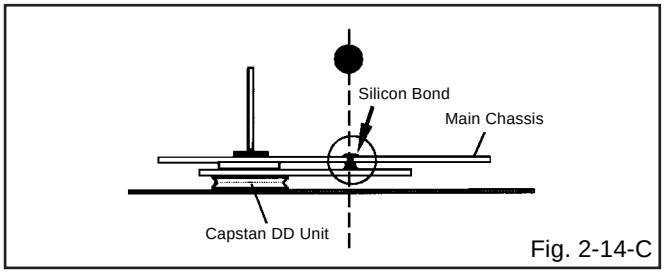


Fig. 2-14-C

2-15: MAIN CAM/PINCH ROLLER CAM/JOINT GEAR (Refer to Fig. 2-15-A)

1. Remove the E-Ring ①, then remove the Main Cam.
2. Remove the E-Ring ②, then remove the Pinch Roller Cam and Joint Gear.

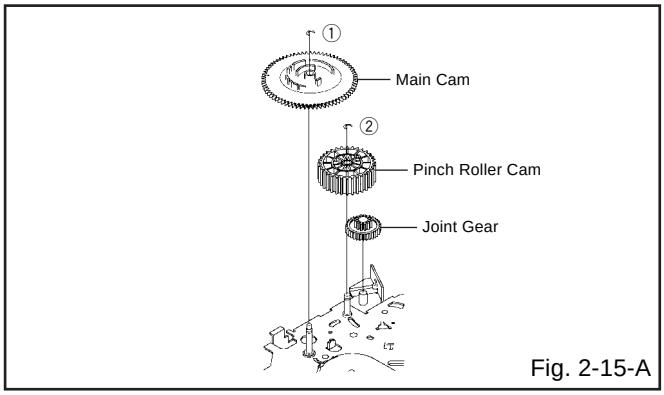


Fig. 2-15-A

NOTE

1. In case of the Pinch Roller Cam and Main Cam installation, install them as the circled section of Fig. 2-15-B so that the each markers are met. **(Refer to Fig. 2-15-B)** And also can be seen the Main Chassis hole through the Main Cam maker hole.

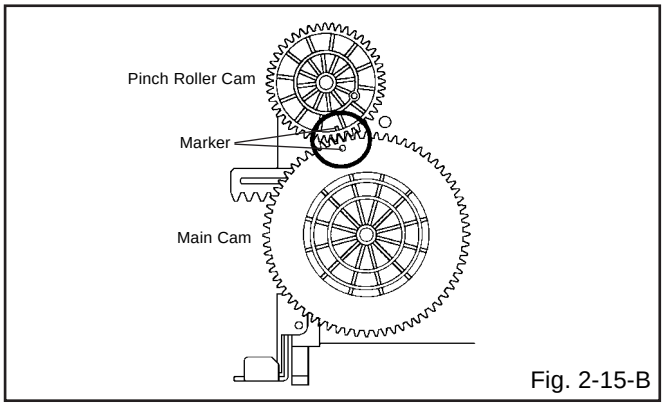


Fig. 2-15-B

2-16: LOADING GEAR S/T UNIT (Refer to Fig. 2-16-A)

1. Remove the E-Ring ① and remove the Main Loading Gear.
2. Remove the Main Rod, Tension Lever, Loading Arm S Unit and Loading Arm T Unit.

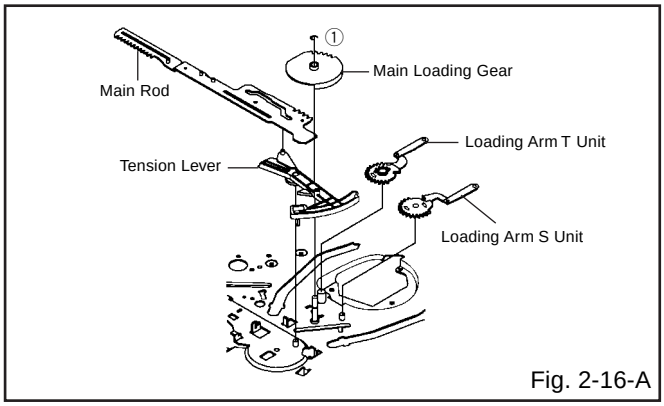


Fig. 2-16-A

DISASSEMBLY INSTRUCTIONS

NOTE

1. When you install the Loading Arm S Unit, Loading Arm T Unit and Main Loading Gear, align each marker. **(Refer to Fig. 2-16-B)**

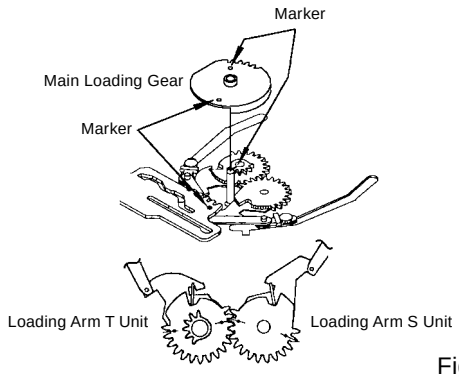


Fig. 2-16-B

2-17: CLUTCH ASS'Y/RING SPRING/CLUTCH LEVER/ CLUTCH GEAR (Refer to Fig. 2-17-A)

1. Remove the Polyslider Washer ①.
2. Remove the Clutch Ass'y and Ring Spring.
3. Remove the Clutch Lever.
4. Remove the Coupling Gear, Coupling Spring and Clutch Gear.

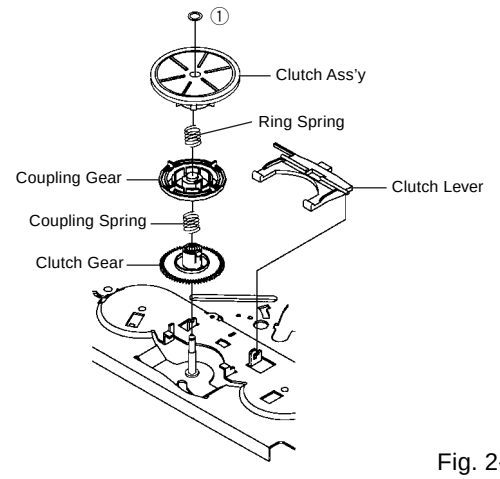


Fig. 2-17-A

NOTE

1. In case of the Clutch Ass'y installation, install it with inserting the spring of the Clutch Ass'y into the dent of the Coupling Gear. **(Refer to Fig. 2-17-B)**

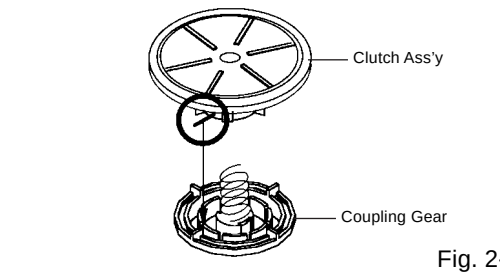


Fig. 2-17-B

2-18: CASSETTE GUIDE POST/INCLINED BASE S/T UNIT/P4 CAP (Refer to Fig. 2-18-A)

1. Remove the P4 Cap.
2. Unlock the support ① and remove the Cassette Guide Post.
3. Remove the Inclined Base S Unit and Inclined Base T Unit.

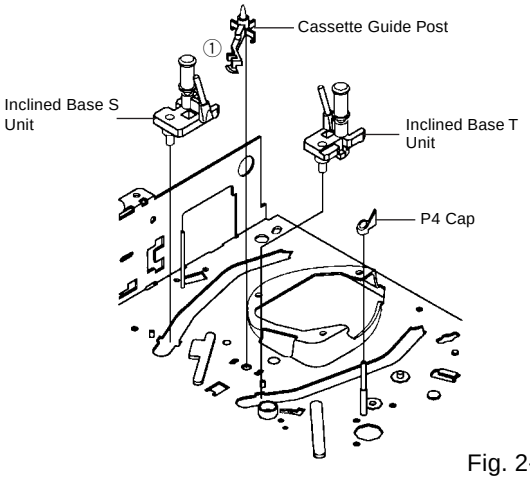


Fig. 2-18-A

NOTE

1. Do not touch the roller of Guide Roller.
2. In case of the P4 Cap installation, install it with parallel for "A" and "B" of Fig. 2-18-B.
3. In case of the Cassette Guide Post installation, install correctly as the circled section of Fig. 2-18-C.

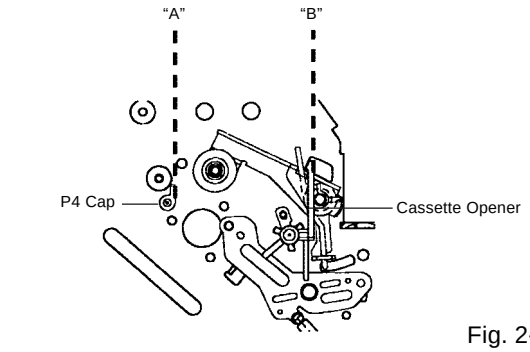


Fig. 2-18-B

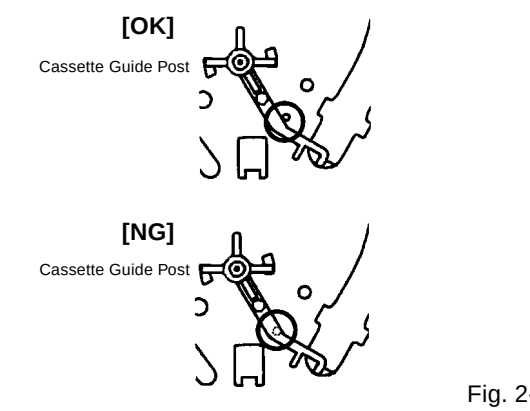


Fig. 2-18-C

DISASSEMBLY INSTRUCTIONS

3. REMOVAL AND INSTALLATION OF FLAT PACKAGE IC

REMOVAL

1. Put the Masking Tape (cotton tape) around the Flat Package IC to protect other parts from any damage. **(Refer to Fig. 3-1.)**

   NOTE

   Masking is carried out on all the parts located within 10 mm distance from IC leads.

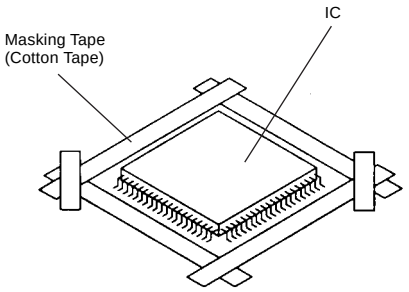


Fig. 3-1

2. Heat the IC leads using a blower type IC desoldering machine. **(Refer to Fig. 3-2.)**

   NOTE

   Do not add the rotating and the back and forth directions force on the IC, until IC can move back and forth easily after desoldering the IC leads completely.

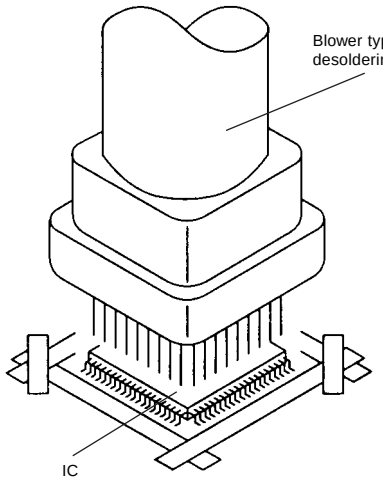


Fig. 3-2

3. When IC starts moving back and forth easily after desoldering completely, pickup the corner of the IC using a tweezers and remove the IC by moving with the IC desoldering machine. **(Refer to Fig. 3-3.)**

   NOTE

   Some ICs on the PCB are affixed with glue, so be careful not to break or damage the foil of each IC leads or solder lands under the IC when removing it.

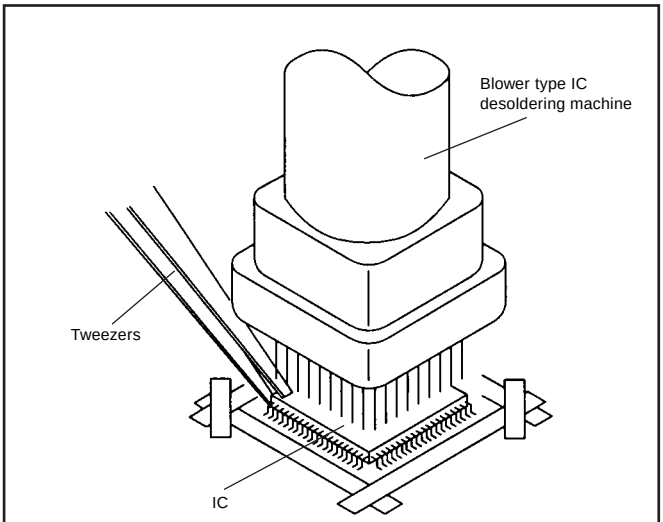


Fig. 3-3

4. Peel off the Masking Tape.
5. Absorb the solder left on the pattern using the Braided Shield Wire. **(Refer to Fig. 3-4.)**

   NOTE

   Do not move the Braided Shield Wire in the vertical direction towards the IC pattern.

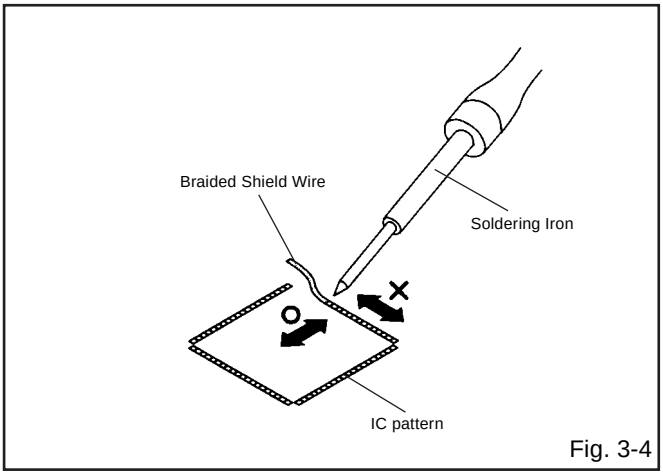


Fig. 3-4

DISASSEMBLY INSTRUCTIONS

INSTALLATION

1. Take care of the polarity of new IC and then install the new IC fitting on the printed circuit pattern. Then solder each lead on the diagonal positions of IC temporarily. **(Refer to Fig. 3-5.)**

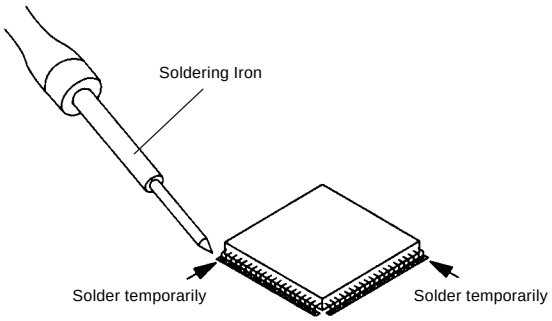


Fig. 3-5

2. Supply the solder from the upper position of IC leads sliding to the lower position of the IC leads. **(Refer to Fig. 3-6.)**

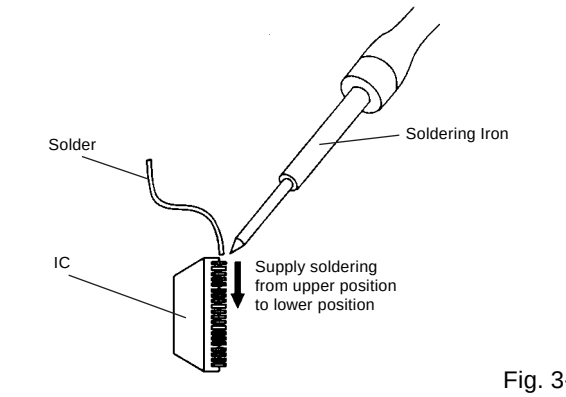


Fig. 3-6

3. Absorb the solder left on the lead using the Braided Shield Wire. **(Refer to Fig. 3-7.)**

   NOTE

   Do not absorb the solder to excess.

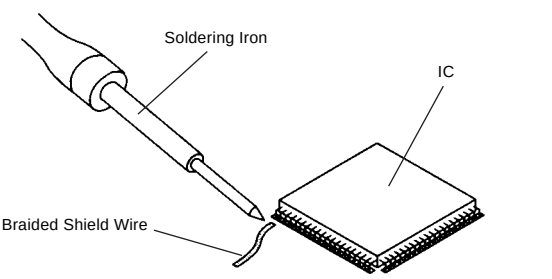


Fig. 3-7

4. When bridge-soldering between terminals and/or the soldering amount are not enough, resolder using a Thin-tip Soldering Iron. **(Refer to Fig. 3-8.)**

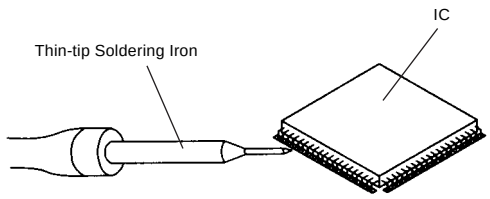


Fig. 3-8

5. Finally, confirm the soldering status on four sides of the IC using a magnifying glass.
   Confirm that no abnormality is found on the soldering position and installation position of the parts around the IC. If some abnormality is found, correct by resoldering.

   NOTE

   When the IC leads are bent during soldering and/or repairing, do not repair the bending of leads. If the bending of leads are repaired, the pattern may be damaged. So, be always sure to replace the IC in this case.

KEY TO ABBREVIATIONS

A	**A/C**	:	Audio/Control
	ACC	:	Automatic Color Control
	AE	:	Audio Erase
	AFC	:	Automatic Frequency Control
	AFT	:	Automatic Fine Tuning
	AFT DET	:	Automatic Fine Tuning Detect
	AGC	:	Automatic Gain Control
	AMP	:	Amplifier
	ANT	:	Antenna
	A.PB	:	Audio Playback
	APC	:	Automatic Phase Control
	ASS'Y	:	Assembly
	AT	:	All Time
	AUTO	:	Automatic
	A/V	:	Audio/Video
B	**BGP**	:	Burst Gate Pulse
	BOT	:	Beginning of Tape
	BPF	:	Bandpass Filter
	BRAKE SOL	:	Brake Solenoid
	BUFF	:	Buffer
	B/W	:	Black and White
C	**C**	:	Capacitance, Collector
	CASE	:	Cassette
	CAP	:	Capstan
	CARR	:	Carrier
	CH	:	Channel
	CLK	:	Clock
	CLOCK (SY-SE)	:	Clock (Syscon to Servo)
	COMB	:	Combination, Comb Filter
	CONV	:	Converter
	CPM	:	Capstan Motor
	CTL	:	Control
	CYL	:	Cylinder
	CYL-M	:	Cylinder-Motor
	CYL SENS	:	Cylinder-Sensor
D	**DATA (SY-CE)**	:	Data (Syscon to Servo)
	dB	:	Decibel
	DC	:	Direct Current
	DD Unit	:	Direct Drive Motor Unit
	DEMOD	:	Demodulator
	DET	:	Detector
	DEV	:	Deviation
E	**E**	:	Emitter
	EF	:	Emitter Follower
	EMPH	:	Emphasis
	ENC	:	Encoder
	ENV	:	Envelope
	EOT	:	End of Tape
	EQ	:	Equalizer
	EXT	:	External
F	**F**	:	Fuse
	FBC	:	Feed Back Clamp
	FE	:	Full Erase
	FF	:	Fast Forward, Flipflop
	FG	:	Frequency Generator
	FL SW	:	Front Loading Switch
	FM	:	Frequency Modulation
	FSC	:	Frequency Sub Carrier
	FWD	:	Forward
G	**GEN**	:	Generator
	GND	:	Ground
H	**H.P.F**	:	High Pass Filter
	H.SW	:	Head Switch
	Hz	:	Hertz
I	**IC**	:	Integrated Circuit
	IF	:	Intermediate Frequency
	IND	:	Indicator
	INV	:	Inverter
K	**KIL**	:	Killer
L	**L**	:	Left
	LED	:	Light Emitting Diode
	LIMIT AMP	:	Limiter Amplifier
	LM, LDM	:	Loading Motor
	LP	:	Long Play
	L.P.F	:	Low Pass Filter
	LUMI.	:	Luminance
M	**M**	:	Motor
	MAX	:	Maximum
	MINI	:	Minimum
	MIX	:	Mixer, mixing
	MM	:	Monostable Multivibrator
	MOD	:	Modulator, Modulation
	MPX	:	Multiplexer, Multiplex
	MS SW	:	Mecha State Switch
N	**NC**	:	Non Connection
	NR	:	Noise Reduction
O	**OSC**	:	Oscillator
	OPE	:	Operation
P	**PB**	:	Playback
	PB CTL	:	Playback Control
	PB-C	:	Playback-Chrominance
	PB-Y	:	Playback-Luminance
	PCB	:	Printed Circuit Board
	P. CON	:	Power Control
	PD	:	Phase Detector
	PG	:	Pulse Generator
	P-P	:	Peak-to Peak
R	**R**	:	Right
	REC	:	Recording
	REC-C	:	Recording-Chrominance
	REC-Y	:	Recording-Luminance
	REEL BRK	:	Reel Brake
	REEL S	:	Reel Sensor
	REF	:	Reference
	REG	:	Regulated, Regulator
	REW	:	Rewind
	REV, RVS	:	Reverse
	RF	:	Radio Frequency
	RMC	:	Remote Control
	RY	:	Relay
S	**S. CLK**	:	Serial Clock
	S. COM	:	Sensor Common
	S. DATA	:	Serial Data
	SEG	:	Segment
	SEL	:	Select, Selector
	SENS	:	Sensor
	SER	:	Search Mode
	SI	:	Serial Input
	SIF	:	Sound Intermediate Frequency
	SO	:	Serial Output
	SOL	:	Solenoid
	SP	:	Standard Play
	STB	:	Serial Strobe
	SW	:	Switch

KEY TO ABBREVIATIONS

S	**SYNC**	:	Synchronization
	SYNC SEP	:	Sync Separator, Separation
T	**TR**	:	Transistor
	TRAC	:	Tracking
	TRICK PB	:	Trick Playback
	TP	:	Test Point
U	**UNREG**	:	Unregulated
V	**V**	:	Volt
	VCO	:	Voltage Controlled Oscillator
	VIF	:	Video Intermediate Frequency
	VP	:	Vertical Pulse, Voltage Display
	V.PB	:	Video Playback
	VR	:	Variable Resistor
	V.REC	:	Video Recording
	VSF	:	Visual Search Fast Forward
	VSR	:	Visual Search Rewind
	VSS	:	Voltage Super Source
	V-SYNC	:	Vertical-Synchronization
	VT	:	Voltage Tuning
X	**X'TAL**	:	Crystal
Y	**Y/C**	:	Luminance/Chrominance

SERVICE MODE LIST

This unit provided with the following SERVICE MODES so you can repair, examine and adjust easily.
To enter to the SERVICE MODE function, press and hold both buttons simultaneously on the main unit or on the main unit and on the remote control for more than a standard time (second).

Set Key	Set Key	Standard Time (seconds)	Operations
CH UP	FF	2	PLAY/REC total hours are displayed on the FIP. Refer to the “PREVENTIVE CHECKS AND SERVICE INTERVALS” (CONFIRMATION OF HOURS USED). Can be checked of the INITIAL DATA of MEMORY IC. Refer to the “WHEN REPLACING EEPROM (MEMORY) IC”.
CH UP	STOP	2	Adjust the SWITHCHING POINT automatically. Refer to the “ELECTRICAL ADJUSTMENT” (SWITHCHING POINT).
CH UP	PLAY	2	Initialization of the factory on VCR. NOTE: Do not use this for the normal servicing. If you set a factory initialization, the memories are reset such as the clock setting, the channel setting, and PLAY/REC total hours.
CH DOWN	POWER	2	VCR operation mode at no connection of DVD. Refer to the “PREPARATION FOR SERVICING” NOTE: Although the DVD is connected, the DVD mode cannot be selected.

Set Key	Remocon Key	Standard Time (seconds)	Operations
REC	5	2	Initialization of the factory on DVD. NOTE: The function will only work without the setting of DVD disc at DVD mode. Do not use this for the normal servicing.
REC	6	2	DVD Write mode. Refer to the “RE-WRITE FOR DVD FIRMWARE”. NOTE: The function will only work at the DVD stop mode. Do not use this for the normal servicing.
STOP	1	3	Check for the firmware version. Refer to the “RE-WRITE FOR DVD FIRMWARE”. NOTE: The function will only work at the DVD stop mode. Do not use this for the normal servicing.

<NOTE> WHEN "N" IS ALWAYS BEING DISPLAYED ON THE TV MONITOR. (REMOTE CONTROLLER FORMAT)

This product is usable the remote controller which is used by DVD+VHS of the other brand.
If "N" is always being displayed on the TV monitor, can not control from provided remote controller since this product is other brand format.

• How to return a JVC format.
Turn off the power of the set and push the CHANNEL+ button and the REC button of the set simultaneously.

PARENTAL CONTROL - RATING LEVEL

4-DIGIT SECURITY CODE CANCELLATION

If the stored 4-digit security code in the Rating Level menu needs to be cancelled, please follow the steps below.

1. Turn on the power, and set to the DVD stop mode.
2. Press the SET UP button to display the DVD menu.
3. Press the SET +/- button to select the "Operation" menu.
4. Press the TV/VCR PR +/- button to select the Parental Lock, then press the OK button.
5. Press the TV/VCR PR +/- button to select the ON or OFF, then press the OK button.
6. Press the STOP button four times on the remote control, then press the OK button.
   The 4-digit security code is cleared.
7. Press the SET UP button to disappear the DVD menu.

WHEN REPLACING EEPROM (MEMORY) IC

If a service repair is undertaken where it has been required to change the MEMORY IC, the following steps should be taken to ensure correct data settings while making reference to TABLE 1.

NOTE: No need setting for after INI FD.

Table 1

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
C0	---	---	---	---	8B	C9	D2	01	FF	FF	FF	FF	F1	54	07	8A
D0	1B	17	81	00	01	FF	03	01	71	9F	02	02	42	35	23	5B
E0	76	5E	08	F8	09	FB	B2	9A	92	8C	51	5F	09	F0	05	F3
F0	B2	2F	9C	42	42	80	3D	08	08	7E	04	3A	AA	---	---	---

[For HR-XV1EK]

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
B0	---	---	---	---	---	---	---	---	---	8B	C9	D2	01	00	00	00
C0	B2	17	00	00	00	F1	54	51	00	51	B2	9F	97	8E	06	8A
D0	DB	60	01	08	00	FF	00	00	71	9F	82	02	42	35	23	5B
E0	76	5E	08	F0	09	FB	00	00	00	00	00	5F	09	F0	05	F3
F0	13	2F	9F	42	42	80	3D	68	08	89	04	3A	AA	---	---	---

[For HR-XV1EU-C, HR-XV1EU-Y]

INI	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F
B0	---	---	---	---	---	---	---	---	---	8B	C9	D2	01	00	00	00
C0	B2	17	00	00	00	F1	54	51	00	51	B2	9F	97	8E	06	8A
D0	DB	E0	8D	08	00	FF	00	00	71	9F	82	02	42	35	23	5B
E0	76	5E	08	F0	09	FB	00	00	00	00	00	5F	09	F0	05	F3
F0	13	2F	9F	42	42	80	3D	68	08	89	04	3A	AA	---	---	---

[For HR-XV1EU-S]

1. Turn on the POWER.
2. Press both CH UP button on the set and the FF button on the set for more than 2 seconds. ADDRESS and DATA will appear on FIP as Fig 1.
3. ADDRESS is now selected and should “blink”. Using the SET + or - button on the remote, step through the ADDRESS until required ADDRESS to be changed is reached.
4. Press OK to select DATA. When DATA is selected, it will “blink”.
5. Again, step through the DATA using SET + or - button until required DATA value has been selected.
6. Pressing OK will take you back to ADDRESS for further selection if necessary.
7. Repeat steps 3 to 6 until all data has been checked.
8. When satisfied correct DATA has been entered, turn POWER off (return to STANDBY MODE) to finish DATA input.

The unit will now have the correct DATA for the new MEMORY IC.

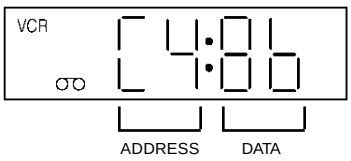


Fig. 1

PREVENTIVE CHECKS AND SERVICE INTERVALS

The following standard table depends on environmental conditions and usage.
Parts replacing time does not mean the life span for individual parts.
Also, long term storage or misuse may cause transformation and aging of rubber parts.
The following list means standard hours, so the checking hours depends on the conditions.

Time / Parts Name	500 hours	1,000 hours	1,500 hours	2,000 hours	2,500 hours	Notes
Audio Control Head	■	■	■	●	●	Clean those parts in contact with the tape.
Full Erase Head (Recorder only)	■	■	■	●	●	
Capstan Belt		●	●	●	●	Clean the rubber, and parts which the rubber touches.
Pinch Roller	■	●	●	●	●	
Capstan DD Unit		●	●	●	●	
Loading Motor					●	
Tension Band		●	●	●	●	
T Brake Band		●	●	●	●	
Clutch Ass'y		●	●	●	●	
Idler Arm Ass'y		●	●	●	●	
Capstan Shaft	■	■	■	■	■	
Tape Running Guide Post	■	■	■	■	■	Replace when rolling becomes abnormal.
Cylinder Unit	■	●	●	●	●	Clean the Head

■ : Clean

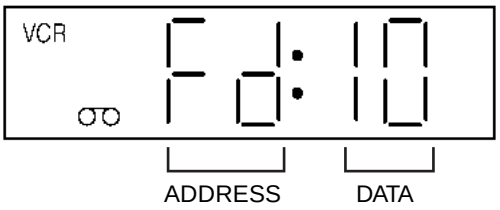
● : Check it and if necessary, replace it.

CONFIRMATION OF HOURS USED

PLAY/REC total hours can be checked on the FIP.
Total hours are displayed in 16 system of notation.

NOTE: If you set a factory initialization, the total hours is reset to "0".

1. Turn on the POWER.
2. While pressing the CH UP button on the set, press the FF button on the set for more than 2 seconds.
3. Adjust the ADDRESS to "FD" by SET + or - button and read the DATA. (This DATA becomes the thousands digit and hundreds digit value of the following formula.)
4. Adjust the ADDRESS to "FE" by SET + or - button and read the DATA. (This DATA becomes the tens digit and ones digit value of the following formula.)
5. After the confirmation of using hours, turn off the power.



PLAY/REC total hours.
= (16 x 16 x 16 x thousands digit value)
+ (16 x 16 x hundreds digit value)
+ (16 x tens digit value)
+ (ones digit value)

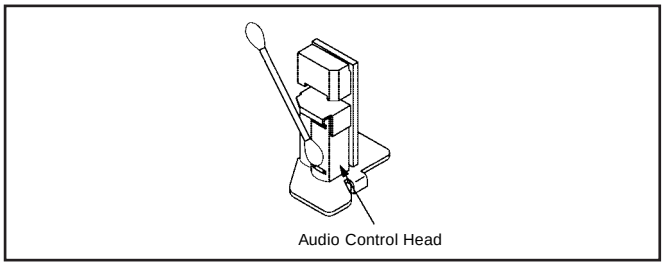
CLEANING

NOTE

After cleaning the heads with isopropyl alcohol, do not run a tape until the heads dry completely. If the heads are not completely dry and alcohol gets on the tape, damage may occur.

1. AUDIO CONTROL HEAD

Clean the Audio Control Head with the cotton stick soaked by alcohol. Clean the full erase head in the same manner. **(Refer to the figure below.)**



2. TAPE RUNNING SYSTEM

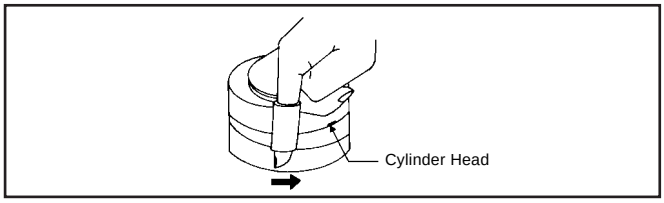
When cleaning the tape transport system, use the gauze moistened with isopropyl alcohol.

3. CYLINDER

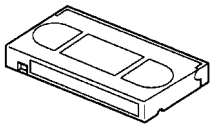
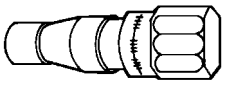
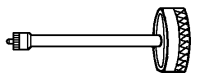
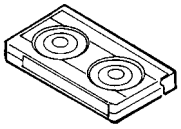
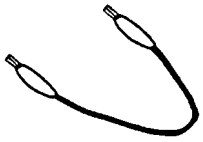
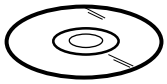
Wrap a piece of chamois around your finger. Dip it in isopropyl alcohol. Hold it to the cylinder head softly. Turn the cylinder head counterclockwise to clean it (in the direction of the arrow). **(Refer to the figure below.)**

NOTE

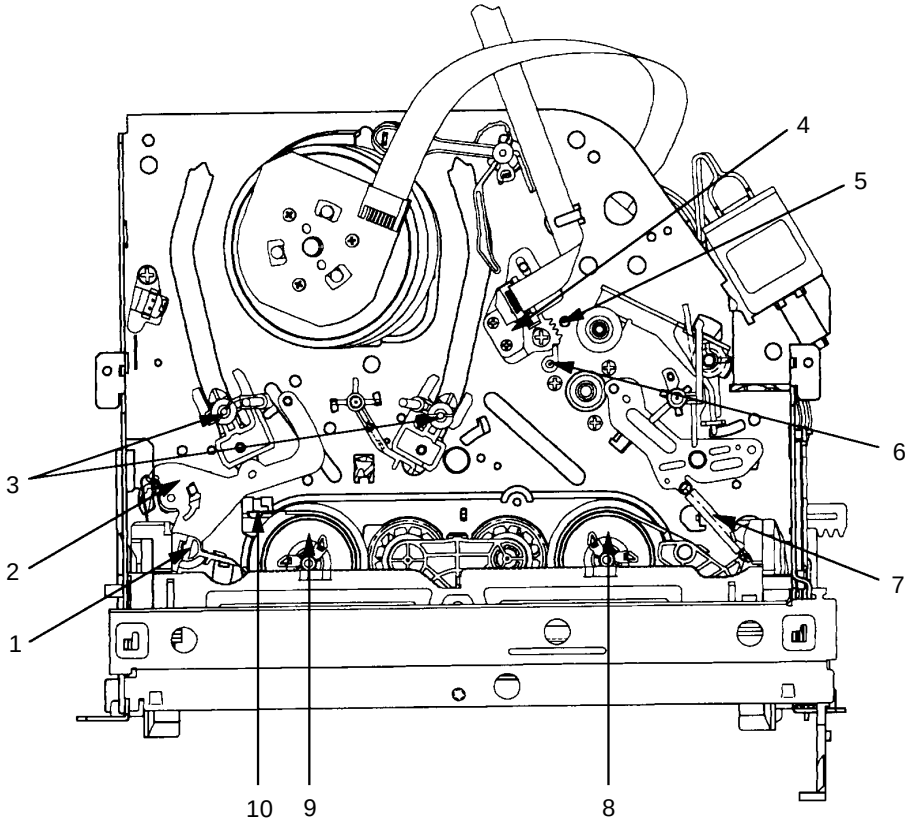
Do not exert force against the cylinder head. Do not move the chamois upward or downward on the head.
Use the chamois one by one.



SERVICING FIXTURES AND TOOLS

VHS Alignment Tape MHPE & MHPE-L 	Torque Gauge PUJ48075-2 	Roller Driver PTU94002-2 	X-JG153 X Value Adjustment Screwdriver 
Torque Tape PUJ48076-2 	Short Jumper 	X-JG176 Up-Date Disc 	

MECHANISM ADJUSTMENT PARTS LOCATION GUIDE

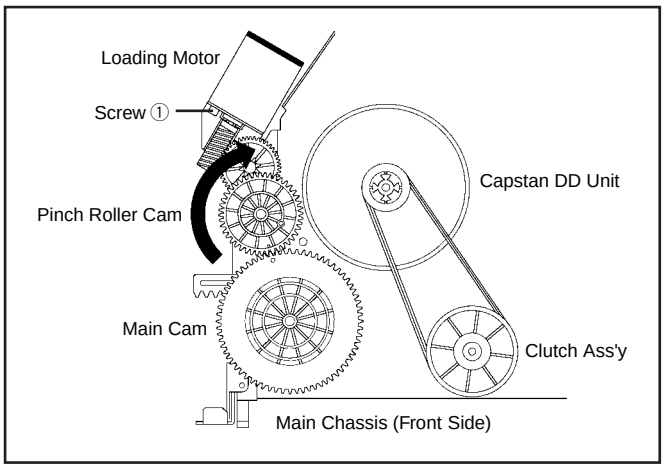


1. Tension Connect
2. Tension Arm
3. Guide Roller
4. Audio/Control Head
5. X value adjustment driver hole
6. P4 Post
7. T Brake Spring
8. T Reel
9. S Reel
10. Adjusting section for the Tension Arm position

MECHANICAL ADJUSTMENTS

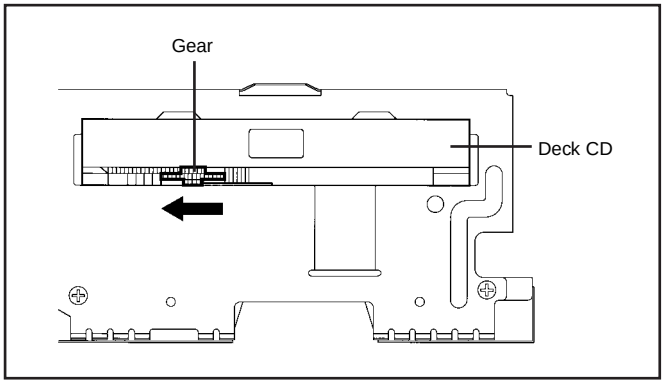
TAPE REMOVAL METHOD AT NO POWER SUPPLY

1. Remove the Top Cabinet, Front Cabinet and DVD Block. **(Refer to item 1 of the DISASSEMBLY INSTRUCTIONS.)**
2. Remove the screw ① of the Deck Chassis and remove the Loading Motor. **(Refer to Fig. 2)**
3. Rotate the Pinch Roller Cam in the direction of the arrow by hand to slacken the Video Tape.
4. Rotate the Clutch Ass'y either of the derections to wind the Video Tape in the Cassette Case.
5. Repeat the above step 3~4. Then take out the Video Cassette from the Deck Chassis.
   Be careful not to scratch on the tape.



DISC REMOVAL METHOD AT NO POWER SUPPLY

1. Remove the Top Cabinet and Front Cabinet. **(Refer to item 1 of the DISASSEMBLY INSTRUCTIONS.)**
2. Rotate the gear of Deck CD section in the direction of the arrow by hand, remove the disc from Deck CD.



1. CONFIRMATION AND ADJUSTMENT

Read the following NOTES before starting work.

- Place an object which weighs between 450g~500g on the Cassette Tape to keep it steady when you want to make the tape run without the Cassette Holder. (Do not place an object which weighs over 500g.)

1-1: CONFIRMATION AND ADJUSTMENT OF TENSION POST POSITION

1. Set to the PLAY mode.
2. Adjust the adjusting section for the Tension Arm position so that the Tension Arm top is within the standard line of Main Chassis.
3. While turning the S Reel clockwise, confirm that the edge of the Tension Arm is located in the position described above.

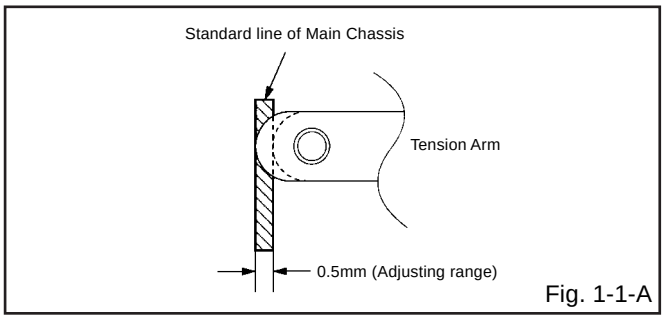
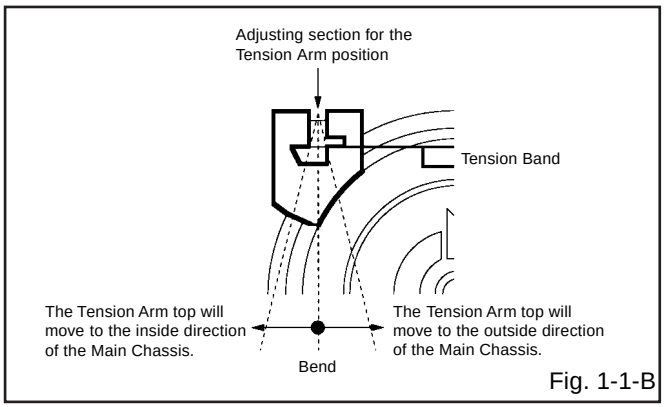


Fig. 1-1-A


Adjusting section for the Tension Arm position
Tension Band
The Tension Arm top will move to the inside direction of the Main Chassis.
The Tension Arm top will move to the outside direction of the Main Chassis.
Bend
Fig. 1-1-B

1-2: CONFIRMATION OF PLAYBACK TORQUE AND BACK TENSION TORQUE DURING PLAYBACK

1. After confirmation and adjustment of Tension Post position **(Refer to item 1-1)**, load the cassette type torque tape and set to the PLAY mode.
2. Confirm that the right meter of the torque tape indicates 50~90gf•cm during playback in SP mode.
3. Confirm that the left meter of the torque tape indicates 25~40gf•cm during playback in SP mode.

1-3: CONFIRMATION OF VSR TORQUE

1. Install the Torque Gauge on the S Reel. Set to the Picture Search (Rewind) mode. **(Refer to Fig.1-2-B)**
2. Then, confirm that it indicates 120~180gf•cm.

NOTE

Install the Torque Gauge on the reel disk firmly. Press the REW button to turn the reel disk.

MECHANICAL ADJUSTMENTS

1-4: CONFIRMATION OF REEL BRAKE TORQUE

(S Reel Brake) **(Refer to Fig. 1-2-B)**

1. Once set to the Fast Forward mode then set to the Stop mode. While, unplug the AC cord when the Pinch Roller Block is on the position of **Fig. 1-2-A**.
2. Move the Idler Ass'y from the S Reel.
3. Install the Torque Gauge on the S Reel. Turn the Torque Gauge clockwise.
4. Then, confirm that it indicates 60~100gf•cm.

(T Reel Brake) **(Refer to Fig. 1-2-B)**

1. Once set to the Fast Forward mode then set to the Stop mode. While, unplug the AC cord when the Pinch Roller Block is on the position of **Fig. 1-2-A**.
2. Move the Idler Ass'y from the T Reel.
3. Install the Torque Gauge on the T reel. Turn the Torque Gauge counterclockwise.
4. Then, confirm that it indicates 30~50gf•cm.

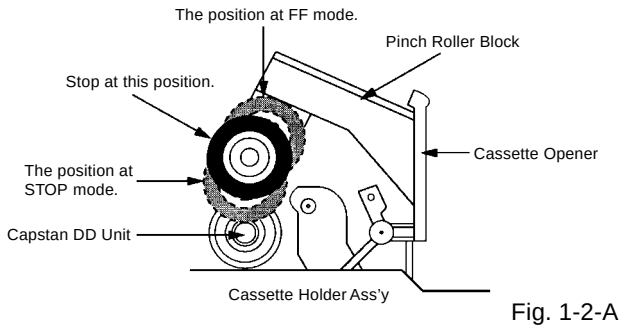


Fig. 1-2-A

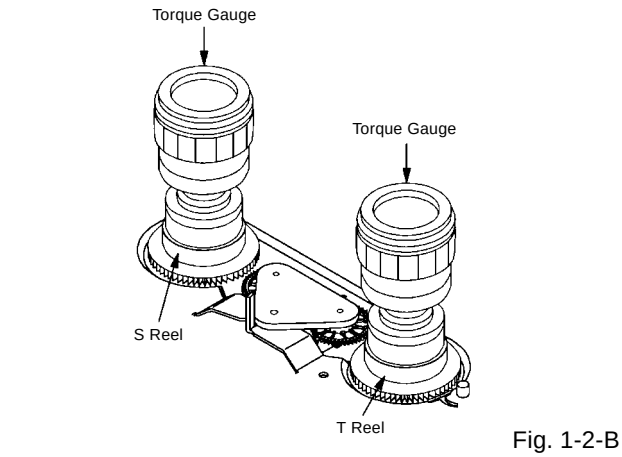


Fig. 1-2-B

NOTE

If the torque is out of the range, replace the following parts.

Check item	Replacement Part
1-3	Idler Ass'y/Clutch Ass'y
1-4	S Reel side: S Reel/Tension Band/Tension Connect/Tension Arm Ass'y T Reel side: T Reel/T Brake Band//T Brake Spring/T Brake Arm

2. CONFIRMATION AND ADJUSTMENT OF TAPE RUNNING MECHANISM

Tape Running Mechanism is adjusted precisely at the factory. Adjustment is not necessary as usual. When you replace the parts of the tape running mechanism because of long term usage or failure, the confirmation and adjustment are necessary.

2-1: GUIDE ROLLER

1. Playback the VHS Alignment Tape **(MHPE)**.
2. Connect CH-1 of the oscilloscope to **TP102 (Envelope)** and CH-2 to **TP101 (SW Pulse)**.
3. Press and hold the Tracking-Auto button on the remote control more than 2 seconds to set tracking to center.
4. Trigger with SW Pulse and observe the envelope. **(Refer to Fig. 2-1-A)**
5. When observing the envelope, adjust the Roller Driver **(PTU94002-2)** slightly until the envelope will be flat. Even if you press the Tracking Button, adjust so that flatness is not moved so much. **(Refer to Fig. 2-1-B)**
6. Adjust so that the A : B ratio is better than 3 : 2 as shown in **Fig. 2-1-C**, even if you press the Tracking Button to move the envelope (The envelope waveform will begin to decrease when you press the Tracking Button).
7. Adjust the PG shifter during playback. **(Refer to the ELECTRICAL ADJUSTMENTS)**

NOTE

After adjustment, confirm and adjust A/C head. **(Refer to item 2-2)**

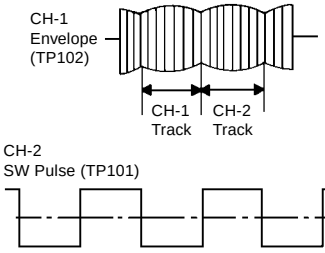


Fig. 2-1-A

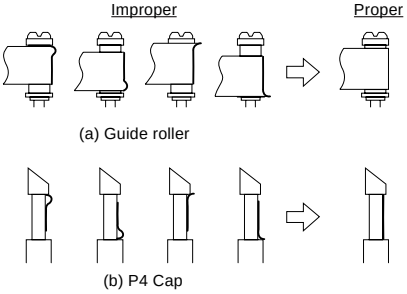


Fig. 2-1-B

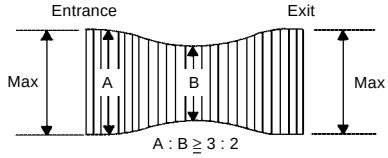


Fig. 2-1-C

MECHANICAL ADJUSTMENTS

2-2: CONFIRMATION AND ADJUSTMENT OF AUDIO/ CONTROL HEAD

When the Tape Running Mechanism does not work well, adjust the following items.

1. Playback the VHS Alignment Tape **(MHPE)**.
2. Confirm that the reflected picture of stamp mark is appeared on the tape prior to P4 Post as shown in **Fig. 2-2-A**.
   a) When the reflected picture is distorted, turn the screw ① clockwise until the distortion is disappeared.
   b) When the reflected picture is not distorted, turn the screw ① counterclockwise until little distortion is appeared, then adjust the a).
3. Turn the screw ② to set the audio level to maximum.
4. Confirm that the bottom of the Audio/ Control Head and the bottom of the tape is shown in **Fig. 2-2-C**.
   c) When the height is not correct, turn the screw ③ to adjust the height. Then, adjust the 1~3 again.

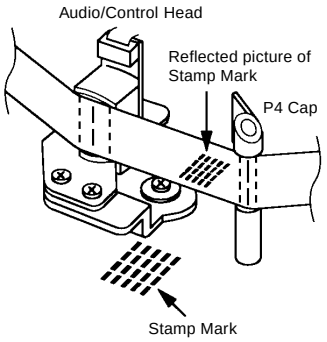


Fig. 2-2-A

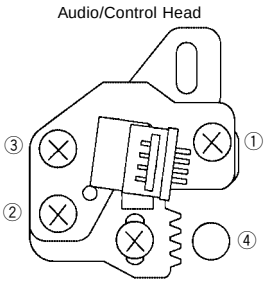


Fig. 2-2-B

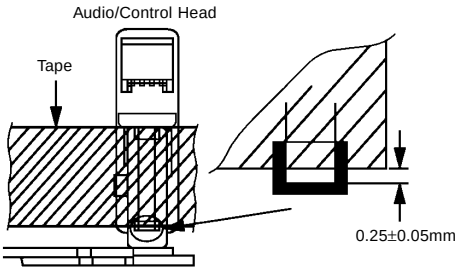


Fig. 2-2-C

2-3: TAPE RUNNING ADJUSTMENT (X VALUE ADJUSTMENT)

1. Confirm and adjust the position of the Tension Post. **(Refer to item 1-1)**
2. Adjust the Guide Roller. **(Refer to item 2-1)**
3. Confirm and adjust the Audio/Control Head. **(Refer to item 2-2)**
4. Connect CH-1 of the oscilloscope to **TP101**, CH-2 to **TP102** and CH-3 to **Audio Out**.
5. Playback the VHS Alignment Tape **(MHPE)**.
6. Press and hold the Tracking-Auto button on the remote control more than 2 seconds to set tracking to center.
7. Set the X Value adjustment driver **(X-JG153)** to the ④ of **Fig. 2-2-B**. At first, turn the Audio/Control Head position fully toward the capstan side. Then adjust X Value to turn it back gradually toward the cylinder side and stop on the second peak point position of the envelope.

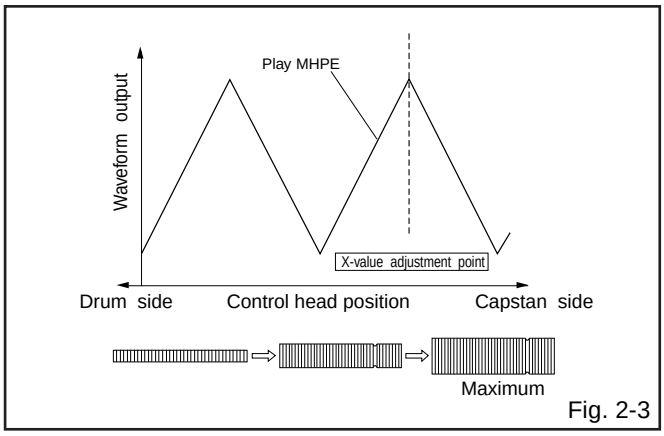


Fig. 2-3

8. Perform tracking operation and confirm the envelope is maximum on the tracking center position.
9. Playback the VHS Alignment Tape **(MHPE-L)**.
10. Perform tracking operation and confirm the envelope is maximum on the tracking center position. If envelope is not maximum, should be fine-tune the X-VALUE.

ELECTRICAL ADJUSTMENTS

Read and perform this adjustment when repairing the circuits or replacing electrical parts or PCB assemblies.

1. BASIC ADJUSTMENT

1-1: SWITCHING POINT

CONDITIONS

MODE-PLAYBACK
Input Signal-Alignment Tape **(MHPE)**

INSTRUCTIONS

1. Connect CH-1 on the oscilloscope to **TP101** and CH-2 to **pin 19 of J8005**.
2. Playback the alignment tape. **(MHPE)**
3. Press and hold the Tracking-Auto button on the remote control more than 2 seconds to set tracking to center.
4. Press both CH UP button on the set and the STOP button on the set for more than 2 seconds.

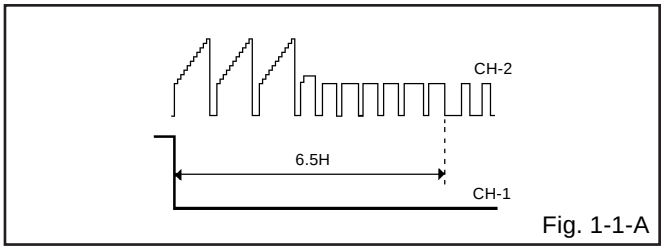


Fig. 1-1-A

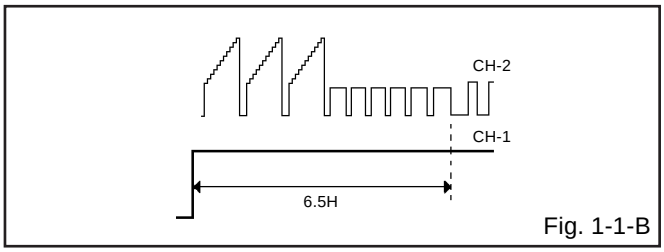
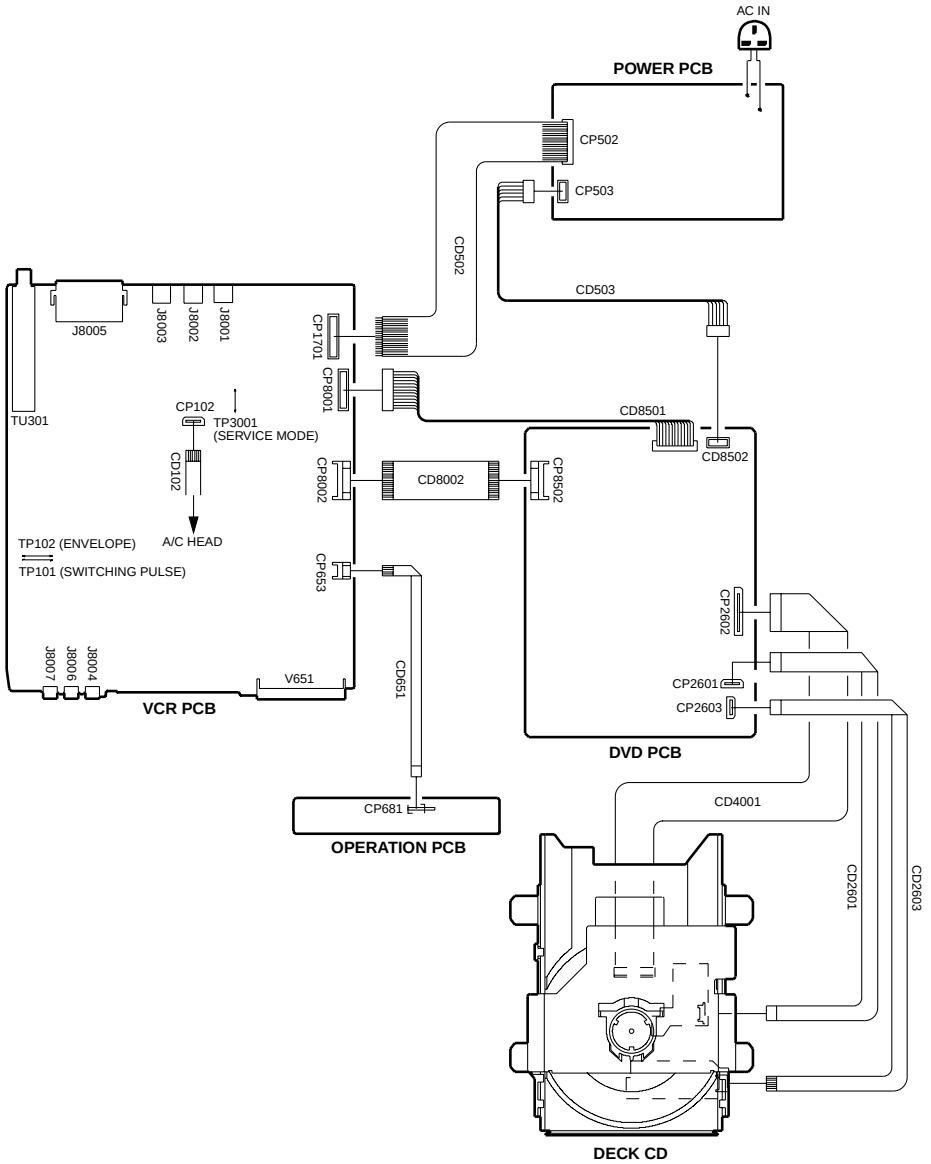


Fig. 1-1-B

ELECTRICAL ADJUSTMENT PARTS LOCATION GUIDE (Connector Connections)



IC DESCRIPTION

DVD PCB OEC6069A (IC1001)

PIN NAME	I/O	DESCRIPTION
D0 to D7	I/O	Data: 0 to 7 for data bus
D8 to D15	I/O	Data: 8 to 15 for data bus
A0 to A7	O	Address: 0 to 7 for address bus
A8 to A15	O	Address: 8 to 15 for address bus
A16 to A23	O	Address: 16 to 23 for address bus
RDX	O	Read: Strobe signal for reading external memory
WRX	O	Write LL: Strobe signal for writing data on pins D0 to D7
RASOX	O	Row address strobe 0: Outputs /RAS strobe for DRAM if address is within specified address area
ROMC5X	O	Chip select 2: Outputs "low" if address is within specified address area
ZRC5X	O	Chip select 3: Outputs "low" if address is within specified address area
TBFC5X	O	Port 84: Output port (output "high" when initialized)
SVCEX	O	Chip select 5: Outputs "low" if address is within specified address area
WAITX	I	Wait: Signal used to request CPU bus wait
LCA50X	O	Lower column address strobe 0: Outputs lower CAS strobe for DRAM if address is within specified address area
UCA50X	O	Upper Column address strobe 0: Outputs upper CAS strobe for DRAM if address is within specified address area
OEOX	O	Output enable 0: Outputs read enable signal for DRAM
WEOX	O	Write enable 0: Outputs erite enable signal for DRAM
NMI_INH	O	Port B0: Output port (output "high" when initialized)
PGBSX	O	Port B1: Output port (output "high" when initialized)
CVSX	O	Port B2: Output port (output "high" when initialized)
S2X	O	Port B3: Output port (output "high" when initialized)
S1X	O	Port B4: Output port (output "high" when initialized)
PROMCK	O	Timer output 1: 8-bit timer 0 or 1 output
PROMDA	O	Timer output 3: 8-bit timer 2 or 3 output
WP	I/O	Port D0: I/O port
I45INTX	I/O	Port D1: I/O port
DMFG	I/O	Port D5: I/O port
CTS	I/O	Port E0: I/O port
TBFINTX	I/O	Port E1: I/O port
DISKWOI	I/O	Port E2: I/O port
SVINTX	I/O	Port E5: I/O port
DSTBX	I/O	Port E6: I/O port
DSPSO	O	Serial send data 0
DSPSI	I	Serial receive data 0
DSPCK	I/O	Port F2: I/O port
TXD	O	Serial send data 1
RXD	I	Serial receive data 1
RTS	I	Serial data receive enable 1
AN0 to AN7	I	Analog input: Input to 10-bit AD converter
DAOUT0	O	DA output 0: Output form 8-bit DA converter 0
DAOUT1	O	DA output 1: Output form 8-bit DA converter 1
LOMN	O	Terminal count 0: Outputs "high" strobe when counter value of micro-DMA channel 0 is "0"
LOMP	O	Terminal count 1: Outputs "high" strobe when counter value of micro-DMA channel 1 is "1"
I45RSTH	O	Terminal count 2: Outputs "high" strobe when counter value of micro-DMA channel 2 is "0"
SVRSTX	O	Terminal count 3: Outputs "high" strobe when counter value of micro-DMA channel 3 is "0"
LSRDVD	I/O	Port H4: I/O port (schmitt input)
SCLK	I/O	Port: I/O port
SO	I/O	Port: I/O port
DACSOX	I/O	Port: I/O port
PLLCSX	I/O	Port: I/O port
NTPLX	I/O	Port: I/O port
VSW	I	Non-maskable interrupt request pin: Interrupt request pin with falling edge Can also be operated at rising edge by program. (schmitt input)
AM0, 1	I	Address mode: Selects external Data Bus width
TEST0, 1	I	Test: Input "low" when using
CLK	O	Clock output: Outputs system clock
X1/X2	I/O	Oscillator connecting pin
RESET	I	Reset: Initializes LSI (with pull-up resistor) (schmitt input)

IC DESCRIPTION

DVD PCB OEC6069A (IC1001)

PIN NAME	I/O	DESCRIPTION
VREFH	I	Pin for reference voltage input to AD converter ("high" level)
VREFL	I	Pin for reference voltage input to AD converter ("low" level)
DAREFH	I	Pin for reference voltage input to DA converter ("high" level)
DAREFL	I	Pin for reference voltage input to DA converter ("low" level)
ADVCC	-	Power supply pin for 10-bit AD converter
ADVSS	-	GND pin for 10-bit AD converter (0V)
DAVCC	-	Power supply pin for 8-bit DA converter
DAVSS	-	GND pin for 8-bit DA converter (0V)
CLVCC	-	Power supply pin for clock doubler
CLVSS	-	GND pin-for clock doubler
DVCC	-	Power supply pin (+ 5V)
DVSS	-	GND pin (0V)

IC DESCRIPTION

DVD PCB OEC6068A (IC2001)

PIN NO.	PIN NAME	I/O	DESCRIPTION
1	ASLCN	O	Data slice negative output
2	ASLCO	O	Analog data slice output (Using Difference input, Digital or Analog slice data output)
3	DVSS	-	DAC-only ground
4	RO	O	R-channel output signal
5	DVDD	-	DAC-only power supply
6	DVR	O	Amp reference signal output
7	LO	O	L-channel output signal
8	DVSS	-	DAC-only power ground
9	XVSS	-	Oscillator-only ground
10	XI	I	Crystal oscillator input
11	XO	O	Crystal oscillator output
12	XVDD	-	Oscillator-only power supply
13	TESM0	-	Test pin
14	TESM1	-	Test pin
15	TESM2	-	Test pin
16	VDD3	-	3.3V digital power supply
17	VSS3	-	3.3V digital ground
18	VPFC	O	Clock PLL block phase / frequency comparator output
19	TEST0	I	Test mode pin
20	VLPFI	I	VCO filter input for the clock PLL
21	VLPFO	O	VCO filter output for the clock PLL
22	VSS3	-	3.3V digital ground
23	MON0	O	Test monitor
24	MON1		
25	MON2		
26	MON3		
27	MON4		
28	MON5		
29	MON6		
30	MON7		
31	MON8		
32	MON9		
33	VDD3	-	3.3V digital power supply
34	NC	-	-
35	NC		
36	TEST1	I	Test mode pin
37	FLGA	I/O	General-purpose I/O or flag monitor
38	FLGB	I/O	General-purpose I/O or flag monitor
39	VSS3	-	3.3V digital ground
40	/RST	I	Reset pin
41	/MA	I	Microcomputer address enable signal
42	/MRD	I	Microcomputer data read signal
43	/MWR	I	Microcomputer data write signal
44	/MCE	I	Microcomputer chip enable signal
45	/MINT	O	Microcomputer interrupt signal
46	MD0	I/O	Microcomputer data bus
47	MD1		
48	MD2		
49	MD3		
50	MD4		
51	MD5		
52	MD6		
53	MD7		
54	VDD5	-	5V power supply
55	NC	-	-
56	NC		

IC DESCRIPTION

DVD PCB OEC6068A (IC2001)

PIN NO.	PIN NAME	I/O	DESCRIPTION
57	SMCK	O	22M block clock output
58	VMCK	O	Data output block (signal processing block) clock output
59	VDD3	-	3.3V digital power supply
60	PD0	O	DVD/CD data output
61	VSS5	-	5V ground
62	PD1	O	DVD/CD data ground
63	PD2		
64	PD3		
65	PD4		
66	VSS3	-	3.3V digital ground
67	PD5	O	DVD/CD data output
68	PD6		
69	PD7		
70	PD8		
71	/PSYC	O	DVD data sector sync signal
72	/PDRQ	O	DVD data transfer block
73	PDCK	O	DVD data transfer clock
74	VDD5	-	5V power supply
75	TESM3	-	Test pin
76	DIGI	I	1-bit DAC Digital In input
77	TESM4	-	Test pin
78	VDD3	-	3.3V digital power supply
79	BA0	O	External RAM address output
80	BA1		
81	BA2		
82	BA3		
83	VSS5	-	5V ground
84	BA4	O	External RAM address output
85	BA5		
86	BA6		
87	BA7		
88	BA8		
89	VDD3	-	3.3V digital power supply
90	/BOE	O	External RAM / OE signal
91	/BRAS	O	External RAM /RAS signal
92	/BCAS	O	External RAM /CAS signal
93	/BWL	O	External RAM Lower / WE signal
94	/BWU	O	External RAM Upper / WE signal
95	VDD5	-	5V power supply
96	BD0	I/O	External RAM data input / output
97	BD1		
98	BD2		
99	BD3		
100	BD4		
101	BD5		
102	BD6		
103	BD7		
104	BD8		
105	VSS3	-	3.3V digital ground
106	BD9	I/O	External RAM data input / output
107	BD10		
108	BD11		
109	BD12		
110	VSS5	-	5V ground
111	BD13	I/O	External RAM data input / output
112	BD14		
113	BD15		

IC DESCRIPTION

DVD PCB OEC6068A (IC2001)

PIN NO.	PIN NAME	I/O	DESCRIPTION
114	NC	-	-
115	NC		
116	VDD3	-	3.3V digital power supply
117	PLCK	I/O	PLL block clock input / output
118	TESM5	-	Test pin
119	TESM6	-	Test pin
120	TESM7	-	Test pin
121	TESM8	-	Test pin
122	VSS3	-	3.3V digital ground
123	CFC1	O	VCO frequency control signal
124	CFC2	O	VCO frequency control signal
125	PPW	O	Phase comparator offset adjusting voltage output
126	PESV	I	Phase comparator offset adjusting voltage input
127	PVSS	-	3.3V PLL block-only ground
128	PESP	O	Phase comparator offset adjusting signal output
129	PDOP1	O	DVD/CD phase control signal (positive)
130	PDON1	O	DVD/CD phase control signal (negative)
131	PDOP2	O	DVD/CD phase control signal (positive)
132	PDON2	O	DVD/CD phase control signal (negative)
133	LPFN	I	Data PLL low-pass filter inverted input
134	LPFO	O	Data PLL low-pass filter output
135	PVREF	-	Data PLL block-only reference power supply
136	VCOREF	I	VCO reference
137	VCOF	I	VCO automatic adjusting filter output
138	PVDD	-	3.3V PLL block-only power supply
139	SLCO1	I/O	Data slice 6-bit DAC output (Using Difference Input, RFOn signal input)
140	TESM9	-	Test pin
141	TEST2	I	Test mode pin
142	RFCD	I	CD RF signal input (Using Difference Input, RFOp signal input)
143	RFDVD	I	DVD RF signal input (Using Difference Input, RFOp signal input)
144	AVDD	-	3.3V analog block-only power supply
145	RFCT	I	RFRP center voltage input (latched at zero cross)
146	RFZI	I	RFRP signal input (latched at zero-cross)
147	TEZI	I	Tracking error signal input (latched at zero-cross)
148	AWIN	I	Active-wide PLL control signal input
149	AVSS	-	3.3V analog block-only ground
150	FEI	I	Focus error signal input
151	TEI	I	Tracking error signal input
152	RFSB	I	RF level or subbeam signal summing input
153	RFRP	I	RFRP signal input
154	AVSS	-	3.3V analog block-only ground
155	TESM10	-	Test pin
156	EXTAD	I	General-purpose external ADC input
157	VREF	-	Analog block-only reference power supply: 1 .65V
158	FOO	O	Focus EQ outputs
159	TRO	O	Tracking EQ output
160	AVDD	-	3.3V analog block-only power supply
161	AWCTL	O	Active-wide PLL control output
162	FMO	O	Feed EQ output
163	DMO	O	Disc EQ output
164	TEBC	O	Tracking balance control signal
165	FEBC	O	Focus balance control signal
166	DPDC	O	DPD error signal's pit depth adjusting signal
167	EQBC	O	D Input(CDRF wideband boost adjusting signal
168	ANMON	O	General-purpose PWM output
169	/DFCT	O	Black dot detection signal

IC DESCRIPTION

DVD PCB OEC6068A (IC2001)

PIN NO.	PIN NAME	I/O	DESCRIPTION
170	VRCK	O	RF EQ response control clock
171	VSS3	-	3.3V digital ground
172	SCD	O	Head amp serial data
173	SCL	O	Head amp serial data latch pulse
174	SCB	O	Head amp serial data clock
175	FGIN	I	Disc FG signal input (with self-biasing circuit)
176	ASLCP	O	Data Slice positive output

IC DESCRIPTION

DVD PCB OEC6067A (IC2603)

PIN NO.	PIN NAME	I/O	DESCRIPTION
1	GND	-	GND Terminal
2	P2TP	I	TE + Input (CD)
3	P2TN	I	TE - Input (CD)
4	LDO2	O	LD Drive Terminal
5	MDI2	I	LD Monitor Terminal
6	VrD	O	Digital VREF
7	Vrfi	-	Filter Capacitance for Reference
8	Vdd	I	Vdd Terminal
9	DPAC	-	DPD AC Coupling Capacitance 1
10	DPBD	-	DPD AC Coupling Capacitance 2
11	DPD1	-	DPD Integration Capacitance 1
12	DPD2	-	DPD Integration Capacitance 1
13	SCB	I	Bus Line (Bit Clock)
14	SCL	I	Bus Line (Latch Signal)
15	SCD	I	Bus Line (Serial Data)
16	VRCK	I	Reference Clock Input
17	VCKF	-	Time Constant Correcting Capacitance
18	VccP	-	Vcc Terminal
19	LVL	O	Sub-Beam Adder Signal Output
20	TEO	O	TE Output
21	FEO	O	FE Output
22	DFTN	I	DPD Defect Terminal
23	Vcc	-	Vcc Terminal
24	NC	-	-
25	RPZ	O	RF Ripple Output 2
26	RPO	O	RF Ripple Output 1
27	RPB	-	Bottom of RF Ripple
28	RPP	-	Peak of RF Ripple
29	RFOn	O	RF Signal Output (differential output)
30	RFOp	O	RF Signal Output (differential output)
31	VccR	-	Vcc Terminal
32	RFS	I	RF Output Slice Level Control
33	TEB	I	TE Balance Control
34	FEB	I	FE Balance Control
35	DPDB	I	DPD Offset Control
36	Vcc2	-	Vcc Terminal
37	NC	-	-
38	NC	-	-
39	GND2	-	
40	TCC1	I	Time Constant. Adjustment Terminal
41	RFDC	-	Capacitance for DC Feedback (RF)
42	VrA	O	Analog VREF
43	EQB	I	Boost Control for RF EQ
44	EQF	I	Band Width Control for RF EQ
45	MDI1	I	LD Monitor Terminal
46	LDO1	O	LD Drive Terminal
47	P1TN	I	TE - Input (DVD)
48	P1TP	I	TE + Input (DVD)
49	P1FN	I	FE - Input (DVD)
50	P1FP	I	FE + Input (DVD)

IC DESCRIPTION

DVD PCB OEC6067A (IC2603)

PIN NO.	PIN NAME	I/O	DESCRIPTION
51	LDP2	I	APC Polarity 1
52	P1DI	I	D Input (DVD)
53	P1CI	I	C Input (DVD)
54	P1BI	I	B Input (DVD)
55	P1AI	I	A Input (DVD)
56	GNDR	-	GND Terminal
57	LDP2	I	APC Polarity 2
58	P2AI	I	A Input (CD)
59	P2BI	I	B Input (CD)
60	P2CI	I	C Input (CD)
61	P2DI	I	D Input (CD)
62	GNDS	-	GND Terminal
63	P2FP	I	FE + Input (CD)
64	P2FN	I	FE - Input (CD)

IC DESCRIPTIONS

VCR PCB OEC7078B (IC3001) [For HR-XV1EK]

Pin No.	Pin Name	I/O	Description
1	MSSW B	I	Input terminal(B) of mecha state sensor.
2	MSSW A	I	Input terminal(A) of mecha state sensor.
3	KEY-A	I	Key A input.
4	KEY-B	I	Key B input.
5	AFT-SC	I	AFT S Curve input for tuner.
6	EOT	I	Tape end sensor input signal.
7	A-ENV	I	Input terminal of audio envelope.
8	V-ENV	I	Input terminal of video RF envelope.
			In case of initial setting "AUTO_SETUP" is AGC_DET.
			The others are N.C..
	N.C.	O	N.C.:Output "L".
9	AGC_DET	I	Detection terminal AGC voltage of TUNER.
10	BOT	I	Tape start sensor input signal.
11	CAP FWD	O	Capstan forward and backward command.
12	CAP LIMIT	O	Switch the maximum output current of the Capstan Motor.
13	D.V SYNC	O	Intative V-SYNC signal output during the special playback.
14	REMOCON IN	I	Input the infrared remote control.
15	N.C.	O	Not used.
16	S-DET-H	O	Output "H" when S detection by PAL SP.
17	DVD_RESET	O	Output terminal of DVD reset.
18	V.HEAD SW	O	Output terminal of Head Switch.(video)
19	A.HEAD SW	O	Output terminal of Head Switch.(audio)
20	POWER ON H	O	For control the user power switch ON/OFF.
21	CENTER LED	O	Center LED(EOT/BOT).
22	A.MUTE-H	O	between E-E and V-V during the special playback.
23	N.C.	O	Not used.
24	N.C.	O	Not used.
25	FF/REW L	O	Output "L" when fast forwarding or rewinding.
26	CAP ON	O	Control the Capstan Motor rotation direction.
27	FL_CS	O	CS for FL driver IC control.
28	DVD_MUTE	O	MUTE terminal for DVD when power ON/OFF .
29	NA REC-H	O	Control the Bias OSC for audio head.
30	VV-H	O	If the EE/VV is "VV" ,output"H".
31	DVD_POWER_A	O	Control terminal of DVD POWER(3.3V).
32	N.C.	O	Not used.
33	N.C.	O	Not used.
34	N.C.	-	Not used.
35	N.C.	-	Not used.
36	CLKSEL	-	5V.
37	VCC	-	5V.
38	X IN	I	Connect the main crystal(12 MHz).
39	X OUT	O	Connect the main crystal(12 MHz).
40	VSS	-	Ground.
41	XC IN	I	Subclock pulse(32.768 KHz).
42	XC OUT	O	Subclock pulse(32.768 KHz).
43	RESET	I	Input terminal of reset signal.
44	SERVICE 1	I	Setting of service mode 1.
45	SERVICE 2	I	Setting of service mode 2.
46	SUB_CS	O	Submicom communication control CS.
47	LDM_CTL	O	Control terminal of the Loading Motor.
48	N.C.	O	Not used.
49	SUB_RESET	O	Control submicom RESET.
50	LED-SEG1	O	Control the LED display unit(SEG1).

IC DESCRIPTIONS

VCR PCB OEC7078B (IC3001) [For HR-XV1EK]

Pin No.	Pin Name	I/O	Description
51	LEM-SEG2	O	Control the LED display module(SEG2)
52	LEM-SEG3	O	Control the LED display module(SEG3)
53	LEM-SEG4	O	Control the LED display module(SEG4)
54	LEM-SEG5	O	Control the LED display module(SEG5)
55	LEM-SEG6	O	Control the LED display module(SEG6)
56	LEM-SEG7	O	Control the LED display module(SEG7)
57	LEM-SEG8	O	Control the LED display module(SEG8)
58	LEM-SEG9	O	Control the LED display module(SEG9)
59	LEM-SEG10	O	Control the LED display module(SEG10)
60	LEM-GRID1	O	Control the LED display module(GRID1)
61	LEM-GRID2	O	Control the LED display module(GRID2)
62	LEM-GRID3	O	Control the LED display module(GRID3)
63	LEM-GRID4	O	Control the LED display module(GRID4)
64	LEM-GRID5	O	Control the LED display module(GRID5)
65	SUB_DATA_OUT	O	Output the Data of Submicom.
66	SUB_DATA_IN	I	Input the Data of Submicom.
67	SUB_CLK	O	Output the Clock of Submicom.
68	CG-DATA	O	Output the Data of OSD IC.
69	CG-CS	O	Output the CS signal of OSD IC.
70	CG-CLK	O	Output the Clock of OSD IC.
71	IIC-CLK	O	Clock output to IIC.
72	IIC-SDA	I/O	DATA input/output to IIC.
73	32K MONI	O	Output 32.768KHz monitor(16.384KHz output) to check the clock.
74	Hi-Fi MUTE	O	Control the Hi-Fi IC.
75	V-REC-ST	O	Control the Head Amp for video and Hi-Fi audio.
76	PICTURE CTL	O	Output pulse to conrol the Y/C IC for sharpness.
77	CAP-CTL	O	Output servo of the capstan motor.
78	CYL-CTL	O	Output pulse to conrol the drum motor
79	REEL-S	I	Input terminal of reel sensor supply.
80	REEL-T	I	Input terminal of reel sensor take up.
81	TAB SW	I	Input of TAB SW
82	P.FAIL	I	Input for the detection of power interruption.
83	N.C.	I	Not used.
84	C SYNC	I	Input Compound synchronized signal.
85	CFG	I	Input terminal for Capstan FG signal detection.
86	N.C.	O	Not used.
87	DFPG	I	Input terminal for compounded PG and FG signal of Drum motor.
88	AMP VSS	-	Ground.
89	AMP V.OUT	O	Output the analogue Amp standard voltage.
90	AMP V.IN	I	Input the analogue Amp standard voltage.
91	CTL-	I/O	Input and output terminal of CTL AMP.
92	CTL+	I/O	Input and output terminal of CTL AMP.
93	CTL SW OUT	O	Output terminal of CTL AMP positive.
94	CTL AMP IN	I	Input terminal of CTL AMP.
95	AMP C	-	AC Ground of CTL AMP.
96	CTL VSS	-	Connect the VSS.
97	CTL AMP OUT	I/O	Output terminal of CTL AMP circuit.
98	AMP VCC	-	5V.
99	A VCC	-	Voltage terminal for general circuit.
100	SQPB-H	I	Distinction input terminal of SQPB

IC DESCRIPTION

VCR PCB OEC7079B (IC3001) [For HR-XV1EU-C/S/Y]

Pin No.	Pin Name	I/O	Description
1	MSSW B	I	Input terminal(B) of mecha state sensor.
2	MSSW A	I	Input terminal(A) of mecha state sensor.
3	KEY-A	I	Key A input.
4	KEY-B	I	Key B input.
5	AFT-SC	I	AFT S Curve input for tuner.
6	EOT	I	Tape end sensor input signal.
7	A-ENV	I	Input terminal of audio envelope.
8	V-ENV	I	Input terminal of video RF envelope.
9	PERI_CTL or AGC	I	PERI_CTL and AGC are changed by Initial setting. PERI_CTL : Control the 21 pin IC output. AGC : Detection terminal AGC voltage of TUNER.
10	BOT	I	Tape start sensor input signal.
11	CAP FWD	O	Capstan forward and backward command.
12	CAP LIMIT	O	Switch the maximum output current of the Capstan Motor.
13	D.V SYNC	O	Intative V-SYNC signal output during the special playback.
14	REMOCON IN	I	Input the infrared remote control.
15	SECAM IN	I	Input the color system SECAM.
16	S-DET-H	O	Output "H" when S detection by PAL SP.
17	DVD_RESET	O	Output terminal of DVD reset.
18	V.HEAD SW	O	Output terminal of Head Switch.(video)
19	A.HEAD SW	O	Output terminal of Head Switch.(audio)
20	POWER ON H	O	For control the user power switch ON/OFF.
21	CENTER LED	O	Center LED(EOT/BOT).
22	A.MUTE-H	O	This pin output the HIGH to mute the sound at the switching point between E-E and V-V during the special playback.
23	SECAM-H	O	Control Y/C IC at SECAM .
24	SP-H	O	Output High when SP on EE screen. The other is Low.
25	FF/REW L	O	Output "L" when fast forwarding or rewinding.
26	CAP ON	O	Control the Capstan Motor rotation direction.
27	FL_CS	O	CS for FL driver IC control.
28	DVD_MUTE	O	MUTE terminal for DVD when power ON/OFF .
29	NA REC-H	O	Control the Bias OSC for audio head.
30	VV-H	O	If the EE/VV is "VV" ,output"H".
31	DVD_POWER_A	O	Control terminal of DVD POWER(3.3V).
32	N.C. or PERI_CTL-L	I/O	N.C. and PERI_CTL-L are changed by Initial setting. In case of ATS is PERI_STL-L. The others are N.C..
33	N.C.	O	Not used.
34	N.C.	-	Not used.
35	N.C.	-	Not used.
36	CLKSEL	-	5V.
37	VCC	-	5V.
38	X IN	I	Connect the main crystal(12 MHz).
39	X OUT	O	Connect the main crystal(12 MHz).
40	VSS	-	Ground.
41	XC IN	I	Subclock pulse(32.768 KHz).
42	XC OUT	O	Subclock pulse(32.768 KHz).
43	RESET	I	Input terminal of reset signal.
44	SERVICE 1	I	Setting of service mode 1.
45	SERVICE 2	I	Setting of service mode 2.
46	SUB_CS	O	Submicom communication control CS.
47	LDM_CTL	O	Control terminal of the Loading Motor.
48	ZERO MUTE	I	MUTE terminal for DVD when power ON/OFF .
49	SUB_RESET	O	Control submicom RESET.
50	LEM-SEG1	O	Control the LED display module(SEG1)

IC DESCRIPTION

VCR PCB OEC7079B (IC3001) [For HR-XV1EU-C/S/Y]

Pin No.	Pin Name	I/O	Description
51	LEM-SEG2	O	Control the LED display module(SEG2)
52	LEM-SEG3	O	Control the LED display module(SEG3)
53	LEM-SEG4	O	Control the LED display module(SEG4)
54	LEM-SEG5	O	Control the LED display module(SEG5)
55	LEM-SEG6	O	Control the LED display module(SEG6)
56	LEM-SEG7	O	Control the LED display module(SEG7)
57	LEM-SEG8	O	Control the LED display module(SEG8)
58	LEM-SEG9	O	Control the LED display module(SEG9)
59	LEM-SEG10	O	Control the LED display module(SEG10) Initial setting is FLD : FLD POWER ON/OFF terminal.
60	LEM-GRID1	O	Control the LED display module(GRID1) Initial setting is FLD : VCR LED for a drive.
61	LEM-GRID2	O	Control the LED display module(GRID2)
62	LEM-GRID3	O	Control the LED display module(GRID3)
63	LEM-GRID4	O	Control the LED display module(GRID4)
64	LEM-GRID5	O	Control the LED display module(GRID5)
65	SUB_DATA_OUT	O	Output the Data of Submicom.
66	SUB_DATA_IN	I	Input the Data of Submicom.
67	SUB_CLK	O	Output the Clock of Submicom.
68	CG-DATA	O	Output the Data of OSD IC.
69	CG-CS	O	Output the CS signal of OSD IC.
70	CG-CLK	O	Output the Clock of OSD IC.
71	IIC-CLK	O	Clock output to IIC.
72	IIC-SDA	I/O	DATA input/output to IIC.
73	32K MONI	O	Output 32.768KHz monitor(16.384KHz output) to check the clock.
74	Hi-Fi MUTE	O	Control the Hi-Fi IC.
75	V-REC-ST	O	Control the Head Amp for video and Hi-Fi audio.
76	PICTURE CTL	O	Output pulse to conrol the Y/C IC for sharpness.
77	CAP-CTL	O	Output servo of the capstan motor.
78	CYL-CTL	O	Output pulse to conrol the drum motor.
79	REEL-S	I	Input terminal of reel sensor supply.
80	REEL-T	I	Input terminal of reel sensor take up.
81	TAB SW	I	Input of TAB SW .
82	P.FAIL	I	Input for the detection of power interruption.
83	N.C.	I	Not used.
84	C SYNC	I	Input Compound synchronized signal.
85	CFG	I	Input terminal for Capstan FG signal detection.
86	N.C.	O	Not used.
87	DFPG	I	Input terminal for compounded PG and FG signal of Drum motor.
88	AMP VSS	-	Ground.
89	AMP V.OUT	O	Output the analogue Amp standard voltage.
90	AMP V.IN	I	Input the analogue Amp standard voltage.
91	CTL-	I/O	Input and output terminal of CTL AMP.
92	CTL+	I/O	Input and output terminal of CTL AMP.
93	CTL SW OUT	O	Output terminal of CTL AMP positive.
94	CTL AMP IN	I	Input terminal of CTL AMP.
95	AMP C	-	AC Ground of CTL AMP.
96	CTL VSS	-	Connect the VSS.
97	CTL AMP OUT	I/O	Output terminal of CTL AMP circuit.
98	AMP VCC	-	5V.
99	A VCC	-	Voltage terminal for general circuit.
100	MESECAM-M/ SQPR-H	I	Distinction input terminal of MESCAM and SQPB.

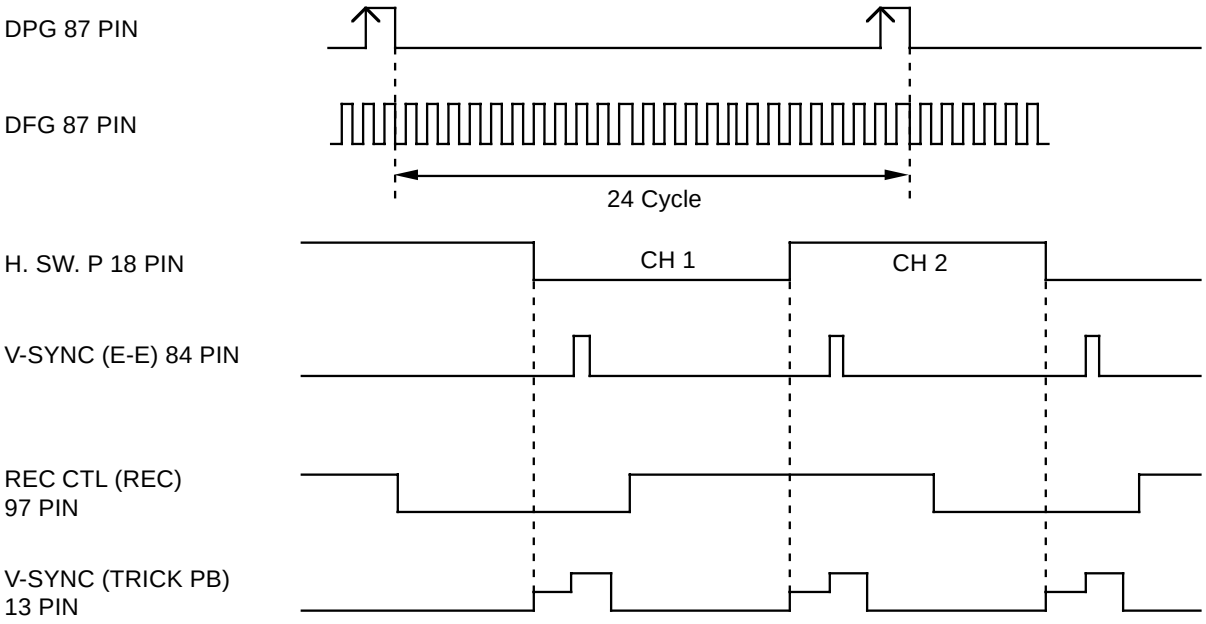
IC DESCRIPTIONS

VCR PCB OEC7080A (IC3005)

Pin No.	Pin Name	I/O	Description
1	D3	O	DVD LED.
2	D4	O	VCR LED.
3	D5	I	Not used. (GND)
4	D6	I	Not used. (GND)
5	D7	I	Not used. (GND)
6	SCK	I	Input synchronized clock for VCR Communication.
7	SOUT	O	Output serial I/O for VCR Communication.
8	SIN	I	Input serial I/O for VCR Communication.
9	RESET	-	Input reset.
10	CNVSS	-	GND.
11	XOUT	O	4MHz oscillation.
12	XIN	I	4MHz oscillation.
13	VSS	-	GND.
14	VDD	-	VDD.
15	VDCE	-	GND.
16	INT0	I	Input software UART for VCR Communication.
17	P31	I	Not used. (GND)
18	AIN0	I	Not used. (GND)
19	AIN1	I	Not used. (GND)
20	AIN2	I	Not used. (GND)
21	AIN3	I	Not used. (GND)
22	P00	I	Not used. (GND)
23	P01	I	Not used. (GND)
24	P02	I	Not used. (GND)
25	P03	I	Not used. (GND)
26	P10	I	Not used. (GND)
27	P11	I	Not used. (GND)
28	P12	I	Not used. (GND)
29	P13	I	Not used. (GND)
30	D0	O	Output software UART for VCR Communication.(TK)
31	D1	I	Input software UART for VCR Communication.(RX)
32	D2	I	Input CS.

SERVO TIMING CHART

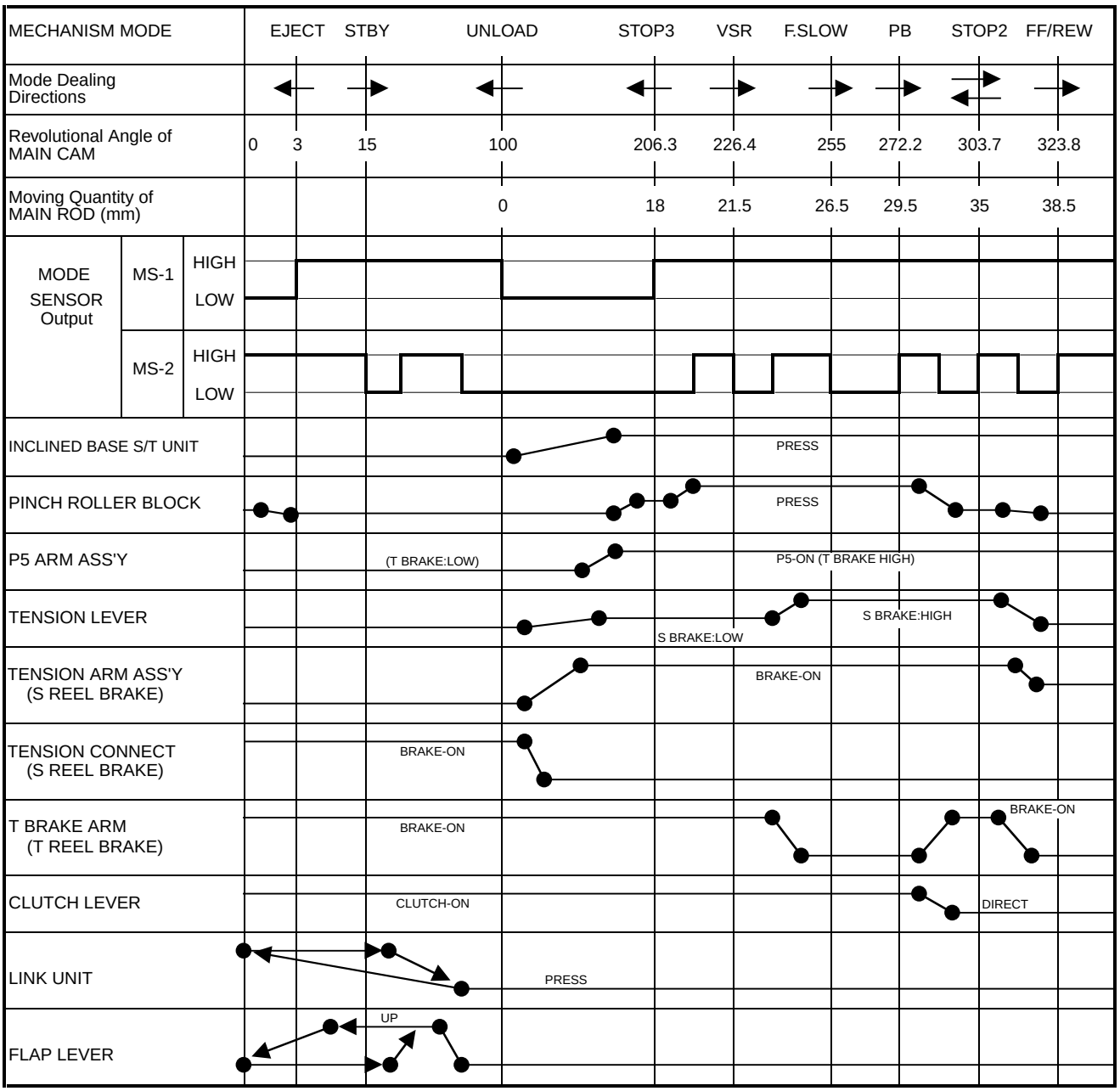
VCR PCB IC3001



• WAVEFORM CHANGES DEPENDED ON THE TAPE SPEED

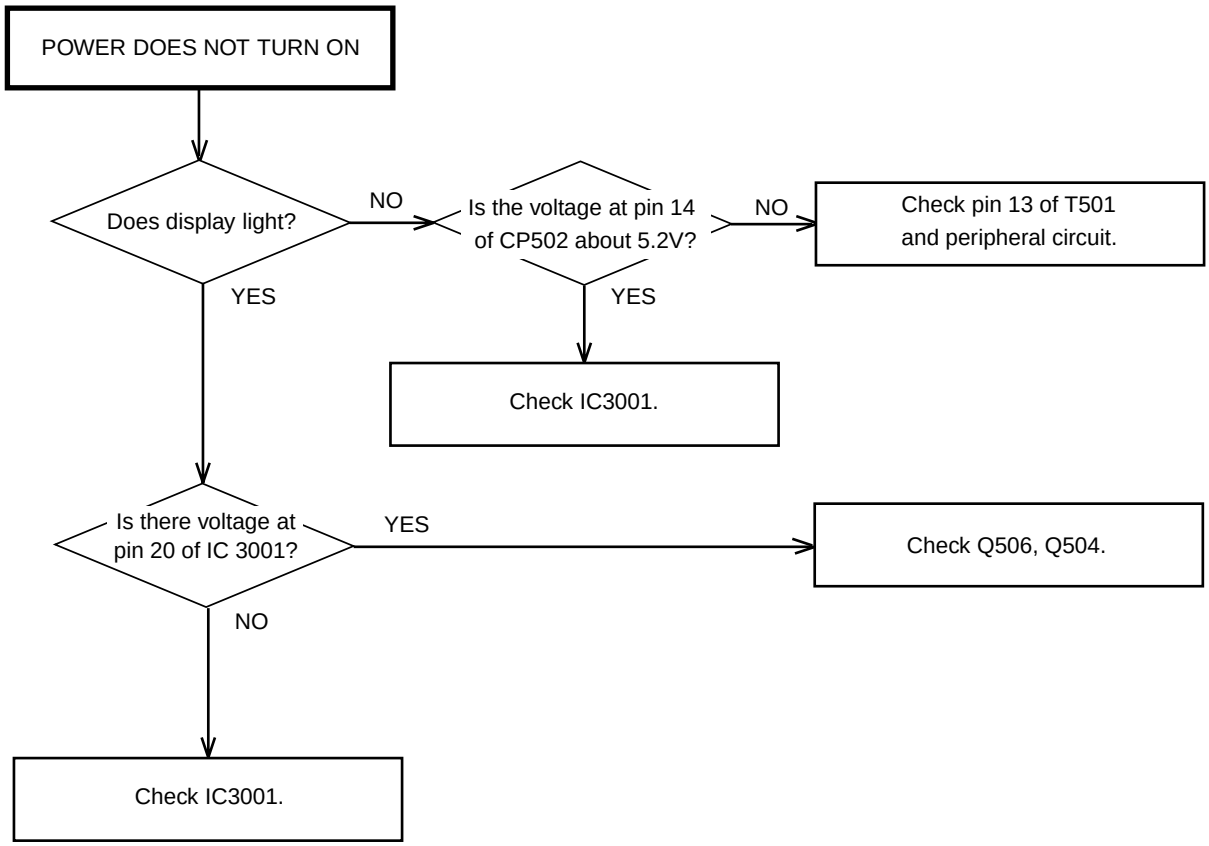
MECHANISM TIMING CHART

Please see the list below for the operational timing and the mode sensor output of the main parts on each mechanism modes.

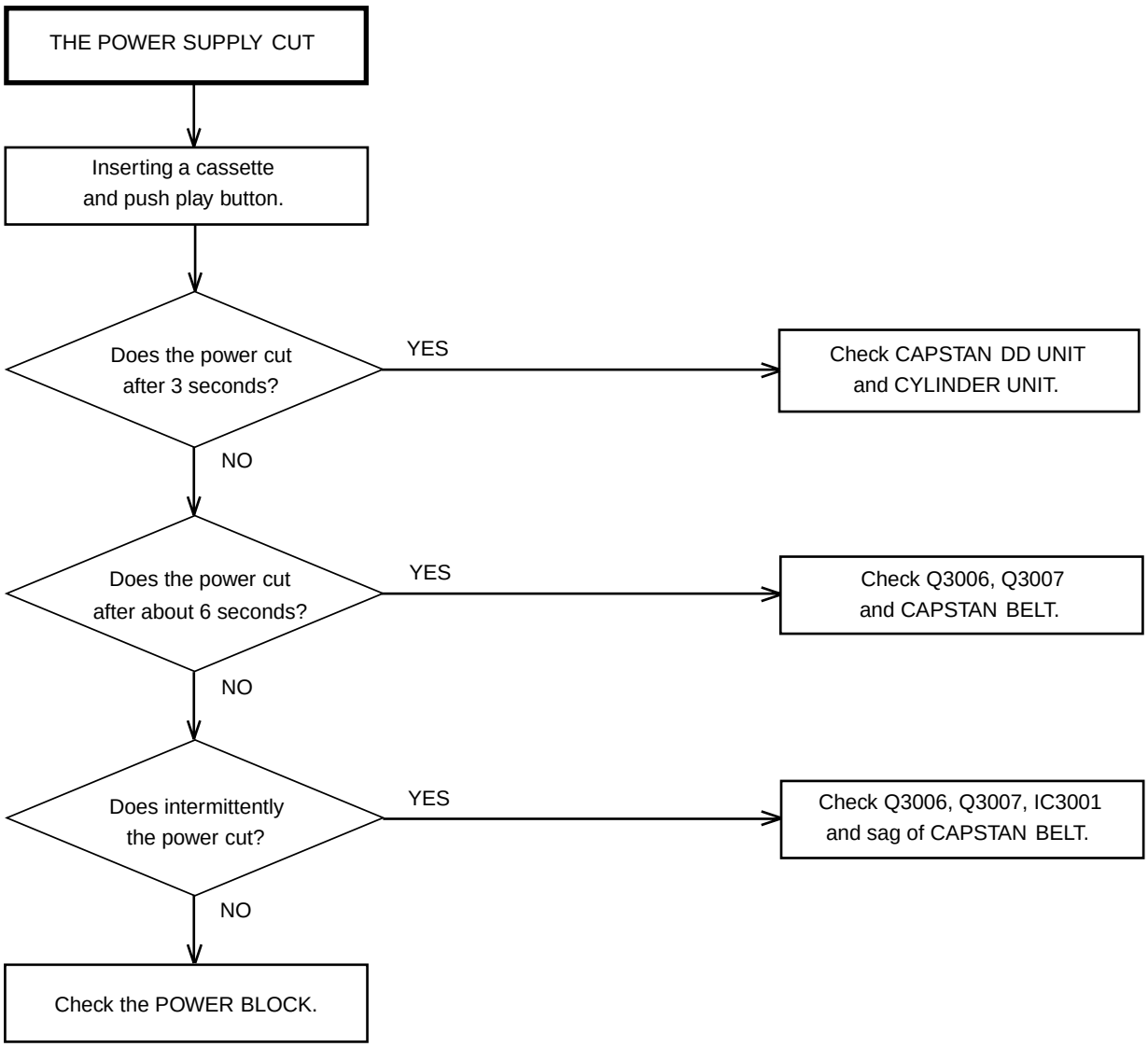


TROUBLESHOOTING GUIDE

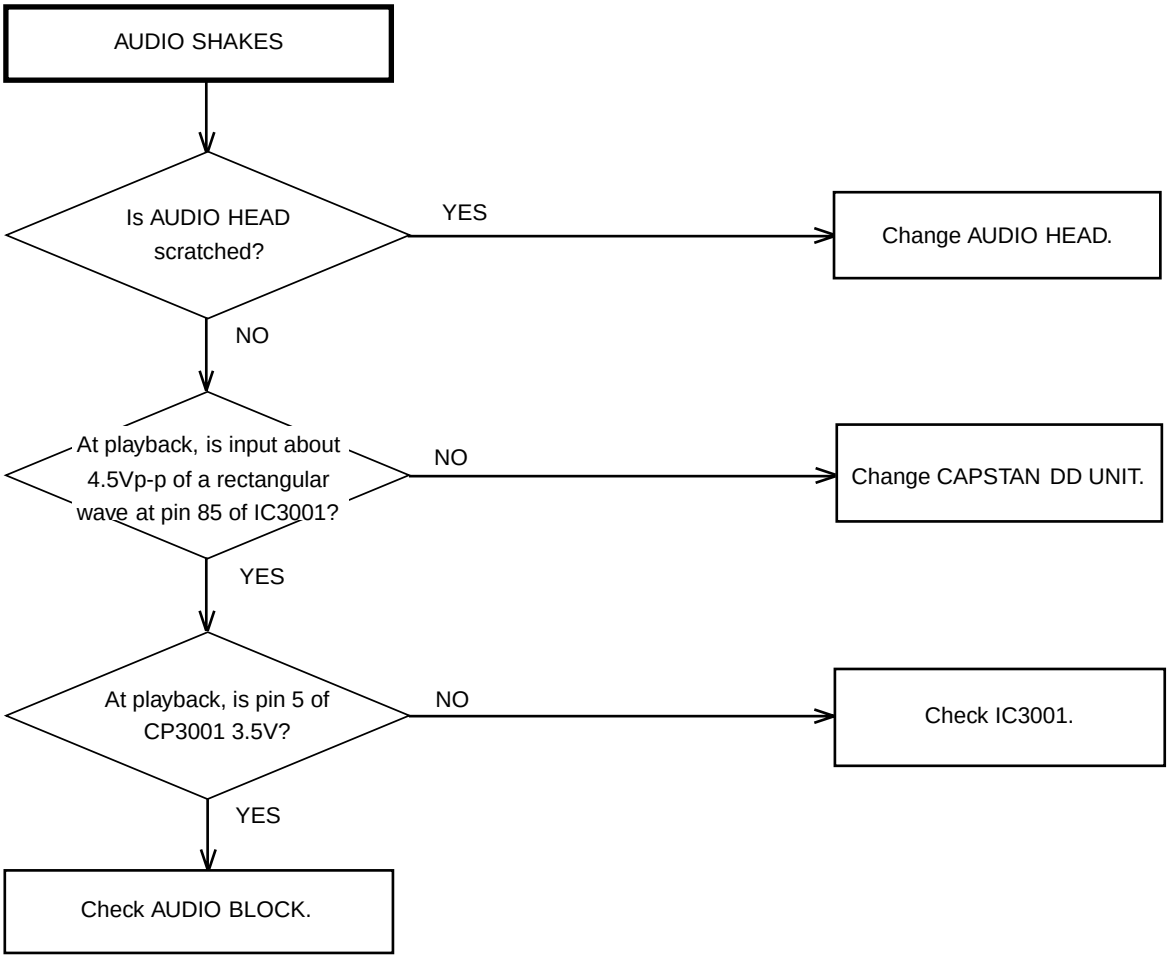
(VCR SECTION)



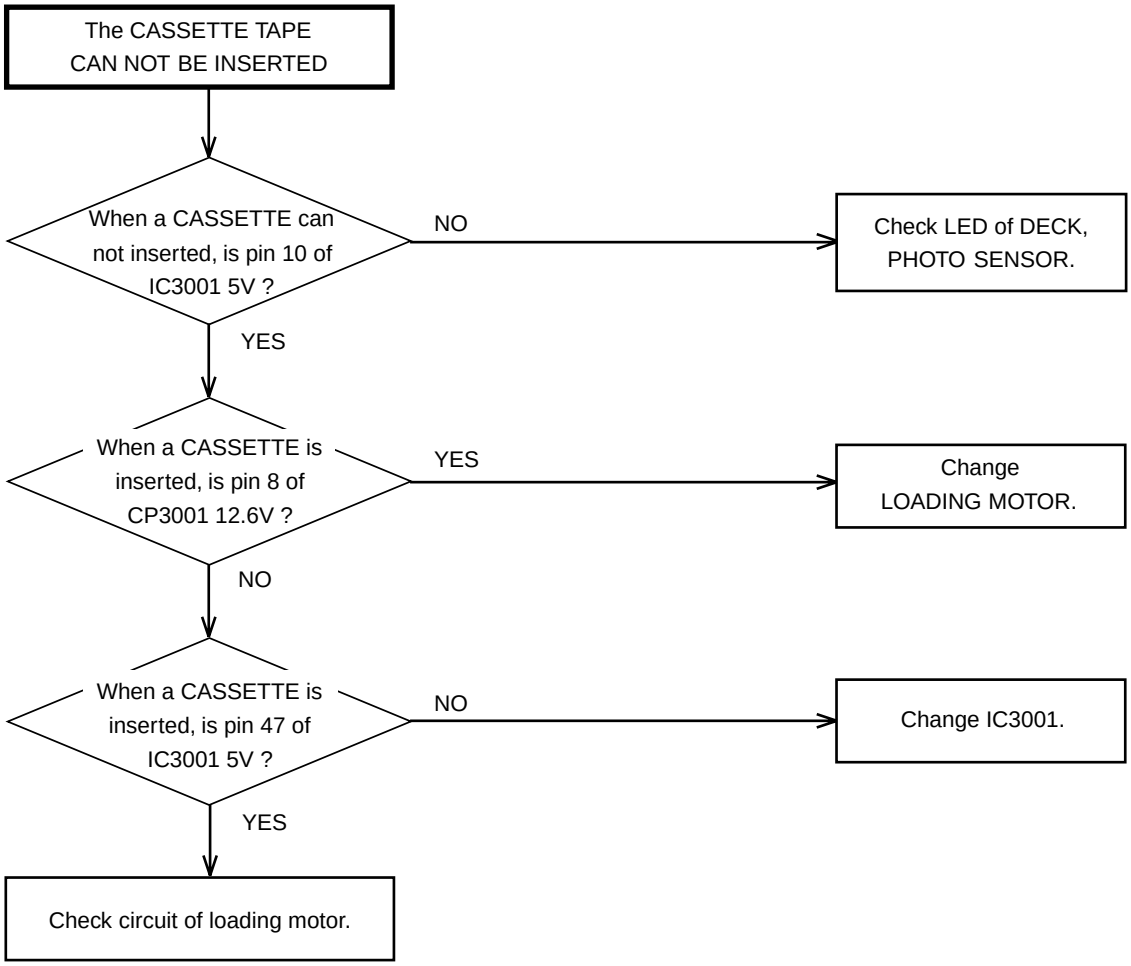
TROUBLESHOOTING GUIDE



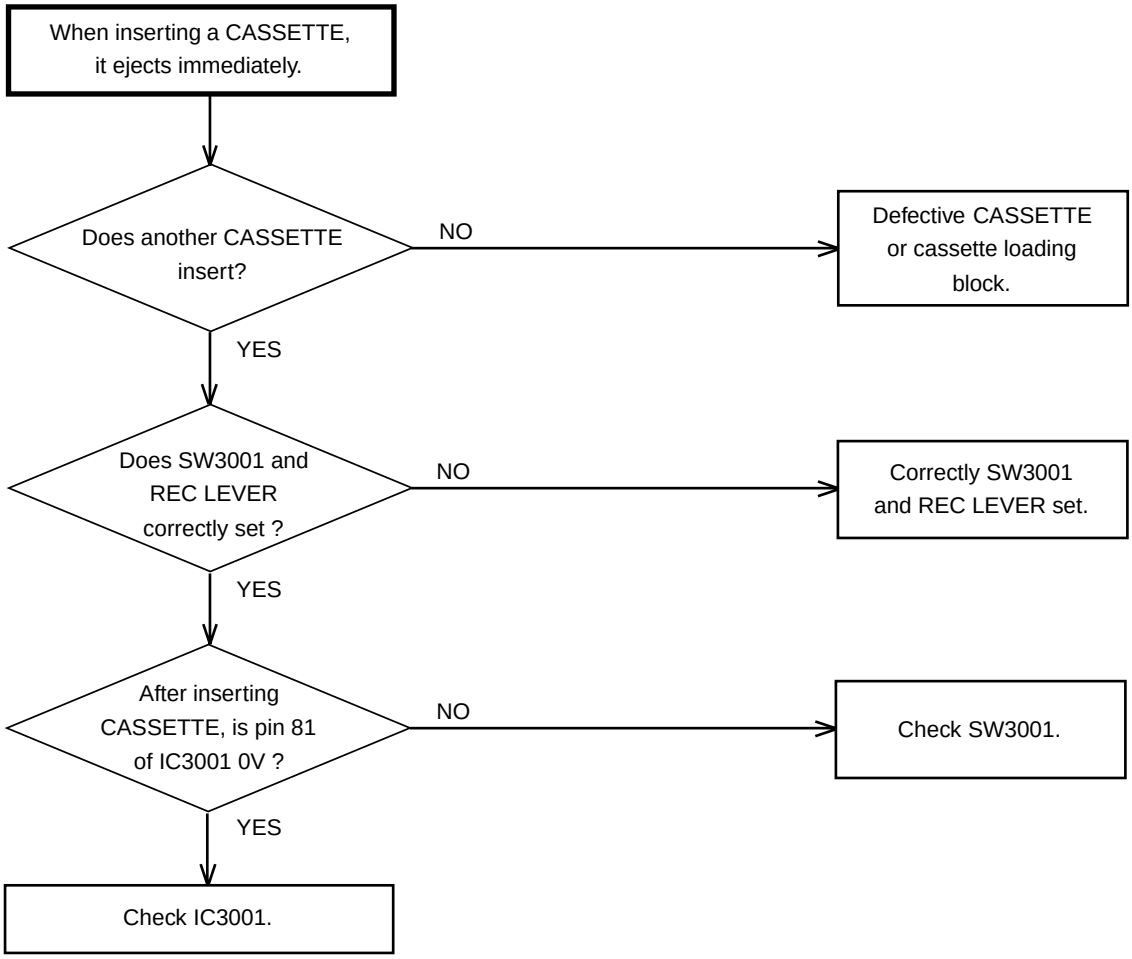
TROUBLESHOOTING GUIDE



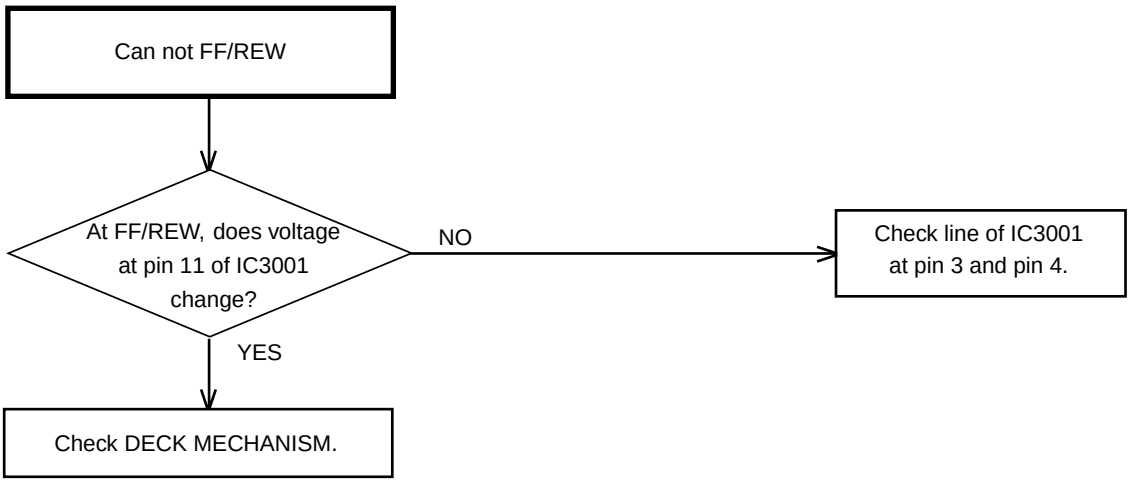
TROUBLESHOOTING GUIDE

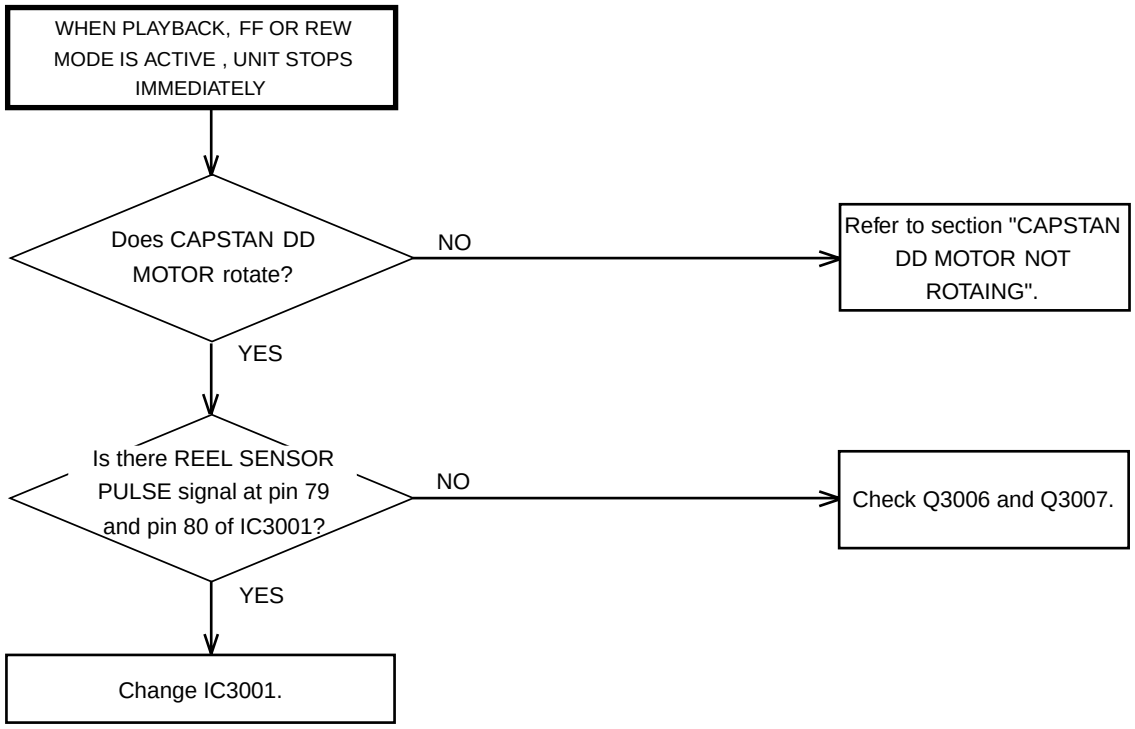

The CASSETTE TAPE
CAN NOT BE INSERTED
When a CASSETTE can not inserted, is pin 10 of IC3001 5V ?
NO
Check LED of DECK, PHOTO SENSOR.
YES
When a CASSETTE is inserted, is pin 8 of CP3001 12.6V ?
YES
Change LOADING MOTOR.
NO
When a CASSETTE is inserted, is pin 47 of IC3001 5V ?
NO
Change IC3001.
YES
Check circuit of loading motor.

TROUBLESHOOTING GUIDE

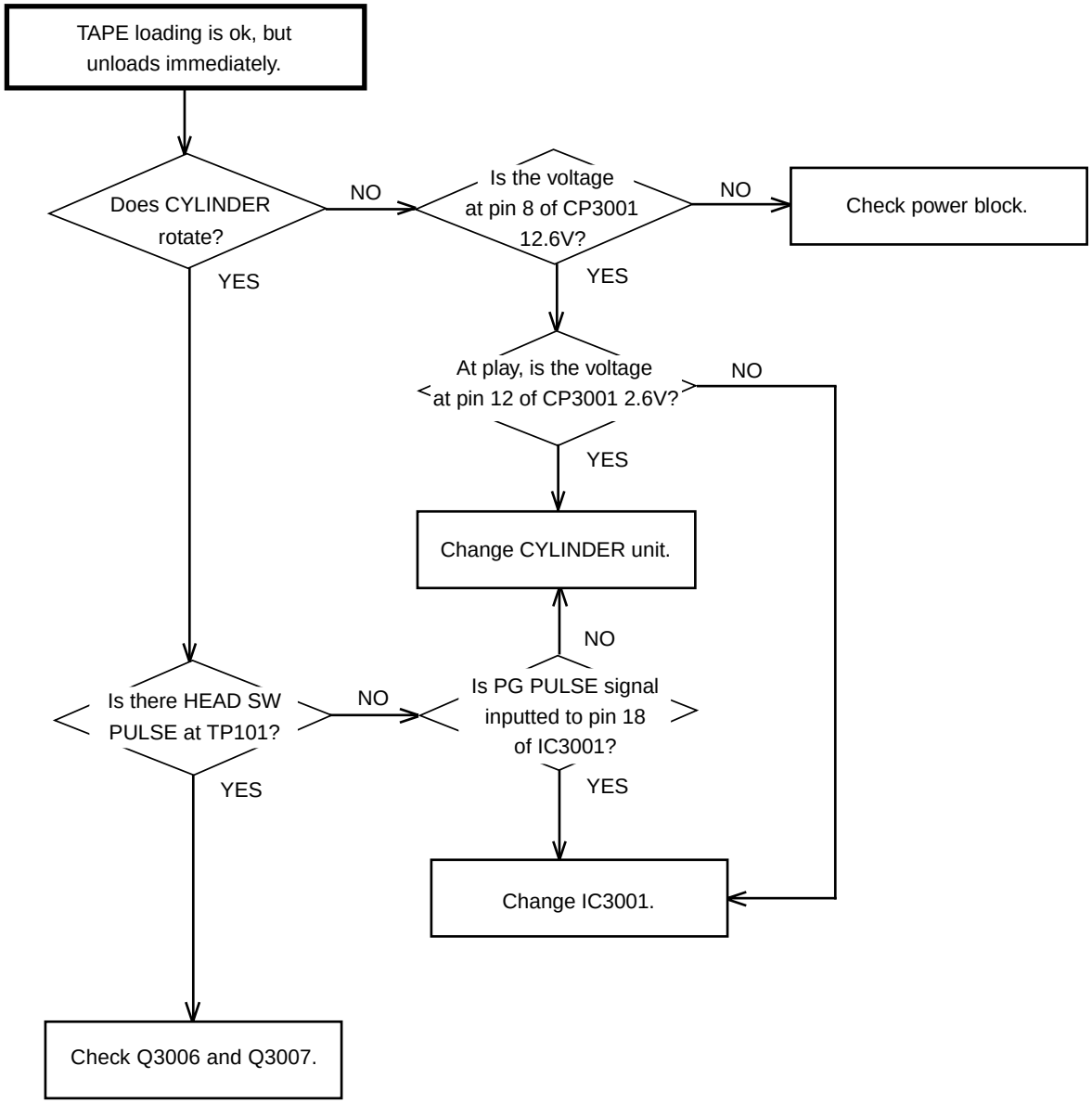


TROUBLESHOOTING GUIDE

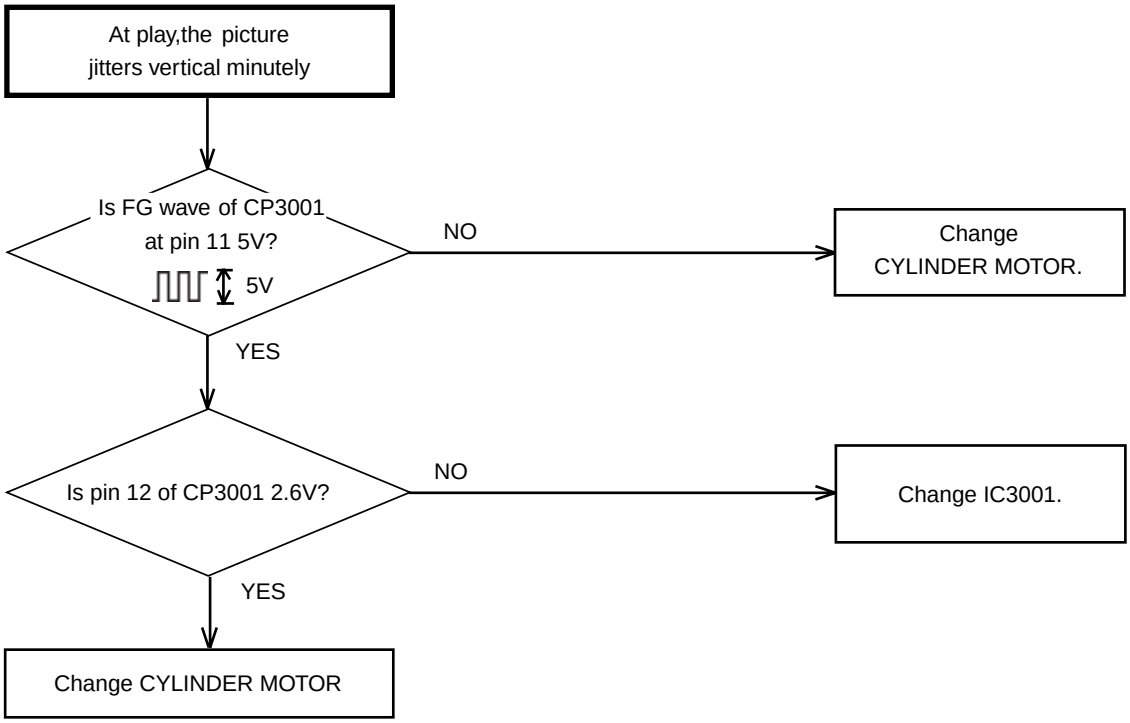

Can not FF/REW
At FF/REW, does voltage at pin 11 of IC3001 change?
NO
Check line of IC3001 at pin 3 and pin 4.
YES
Check DECK MECHANISM.

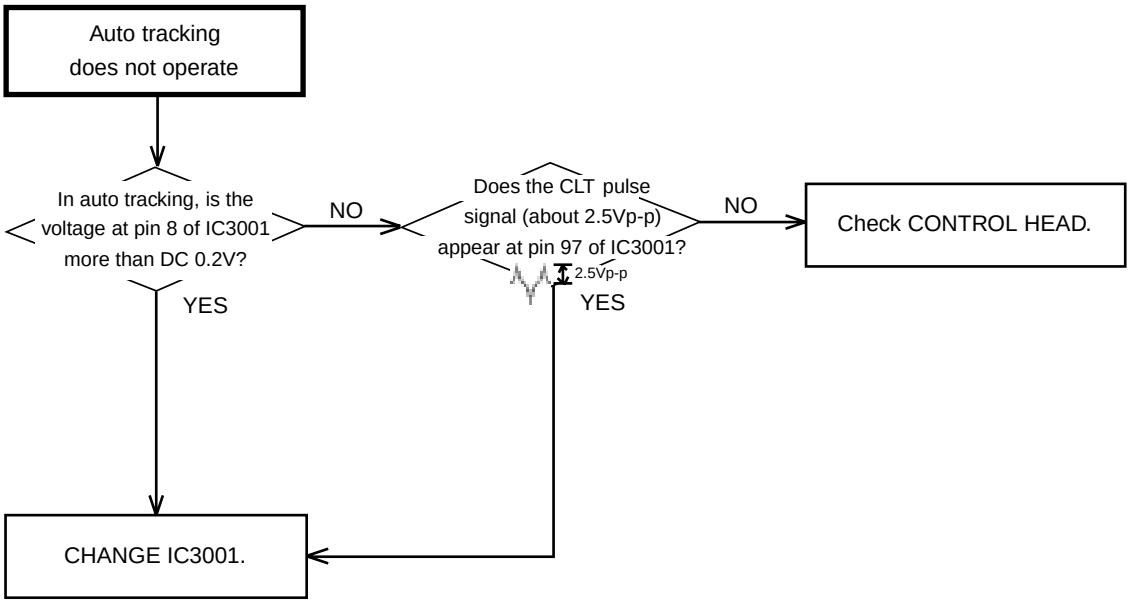

WHEN PLAYBACK, FF OR REW MODE IS ACTIVE , UNIT STOPS IMMEDIATELY
Does CAPSTAN DD MOTOR rotate?
NO
Refer to section "CAPSTAN DD MOTOR NOT ROTAING".
YES
Is there REEL SENSOR PULSE signal at pin 79 and pin 80 of IC3001?
NO
Check Q3006 and Q3007.
YES
Change IC3001.

TROUBLESHOOTING GUIDE

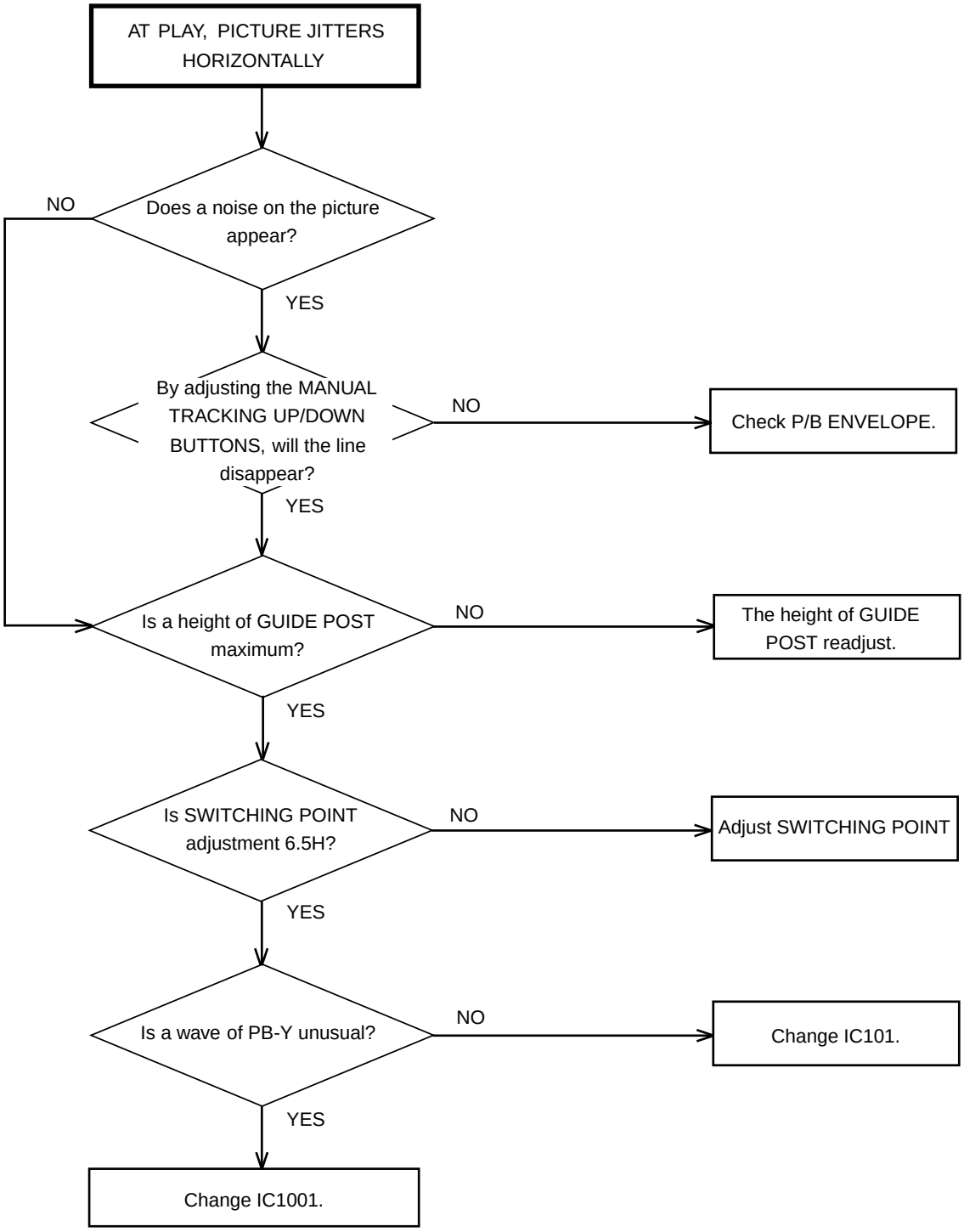


TROUBLESHOOTING GUIDE

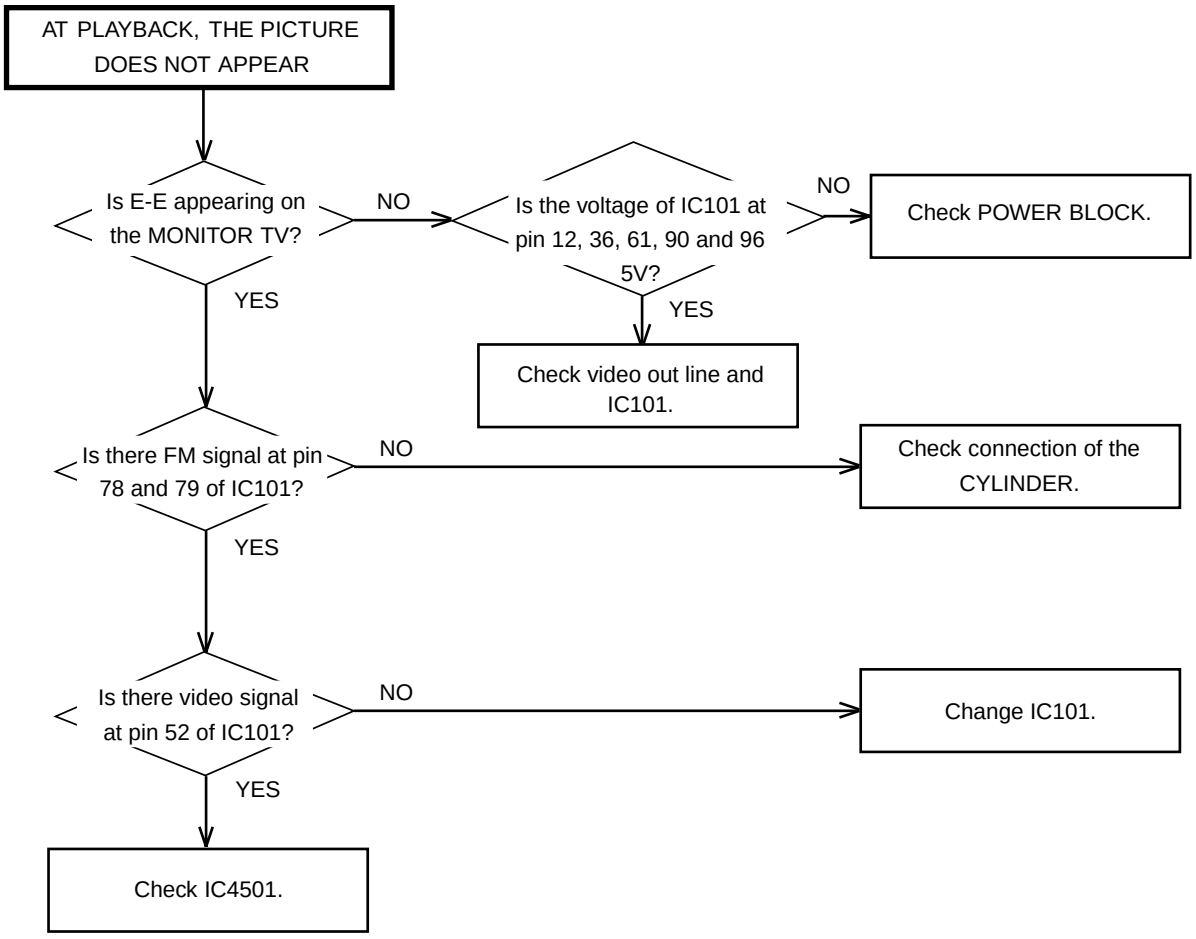




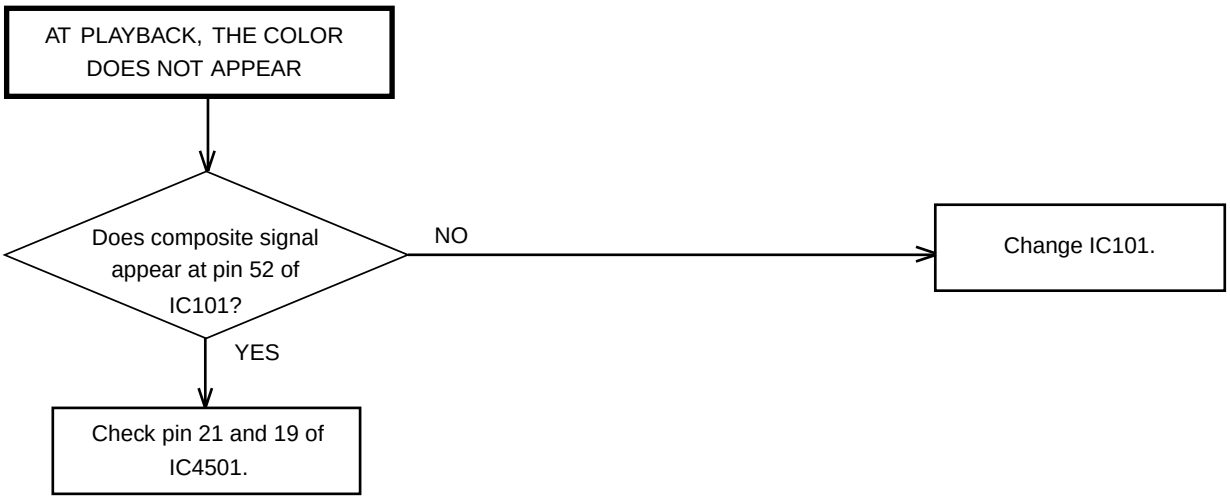
TROUBLESHOOTING GUIDE

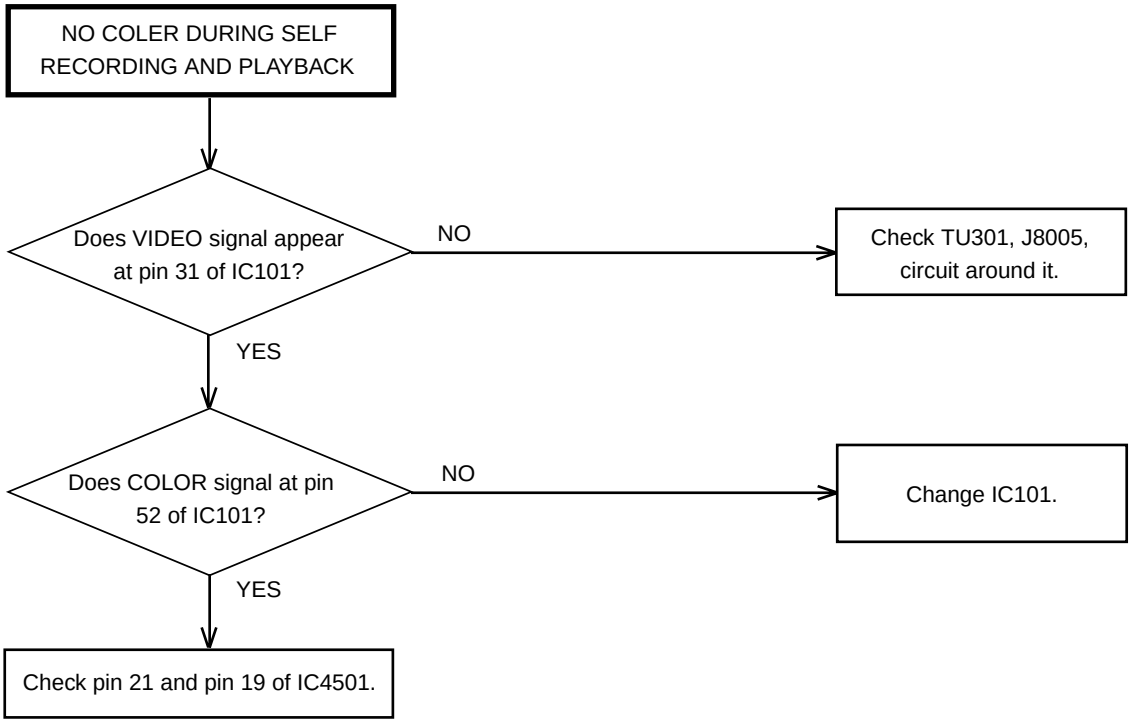


TROUBLESHOOTING GUIDE

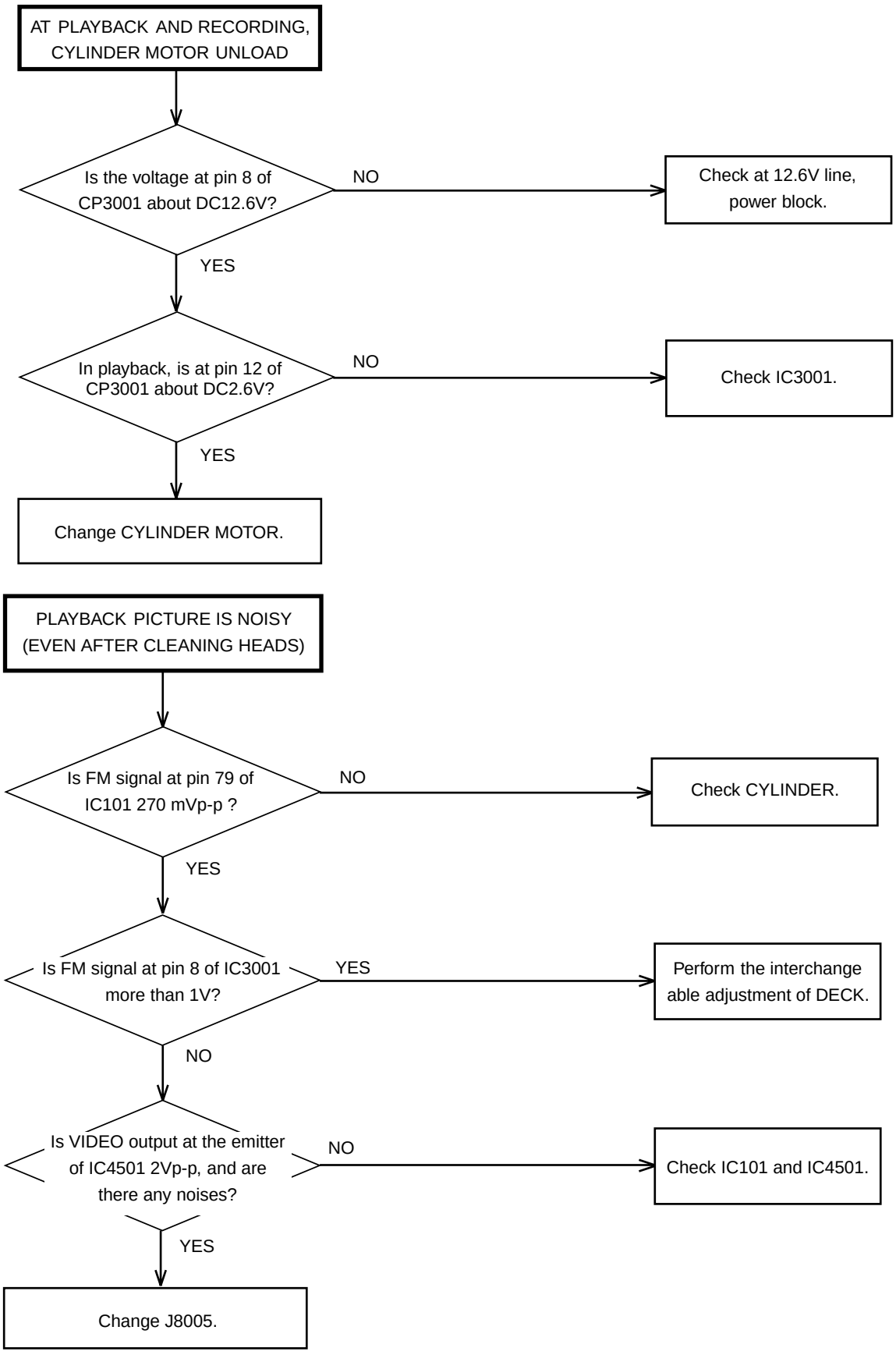

AT PLAYBACK, THE PICTURE DOES NOT APPEAR
Is E-E appearing on the MONITOR TV?
NO
Is the voltage of IC101 at pin 12, 36, 61, 90 and 96 5V?
NO
Check POWER BLOCK.
YES
YES
Check video out line and IC101.
Is there FM signal at pin 78 and 79 of IC101?
NO
Check connection of the CYLINDER.
YES
Is there video signal at pin 52 of IC101?
NO
Change IC101.
YES
Check IC4501.

TROUBLESHOOTING GUIDE

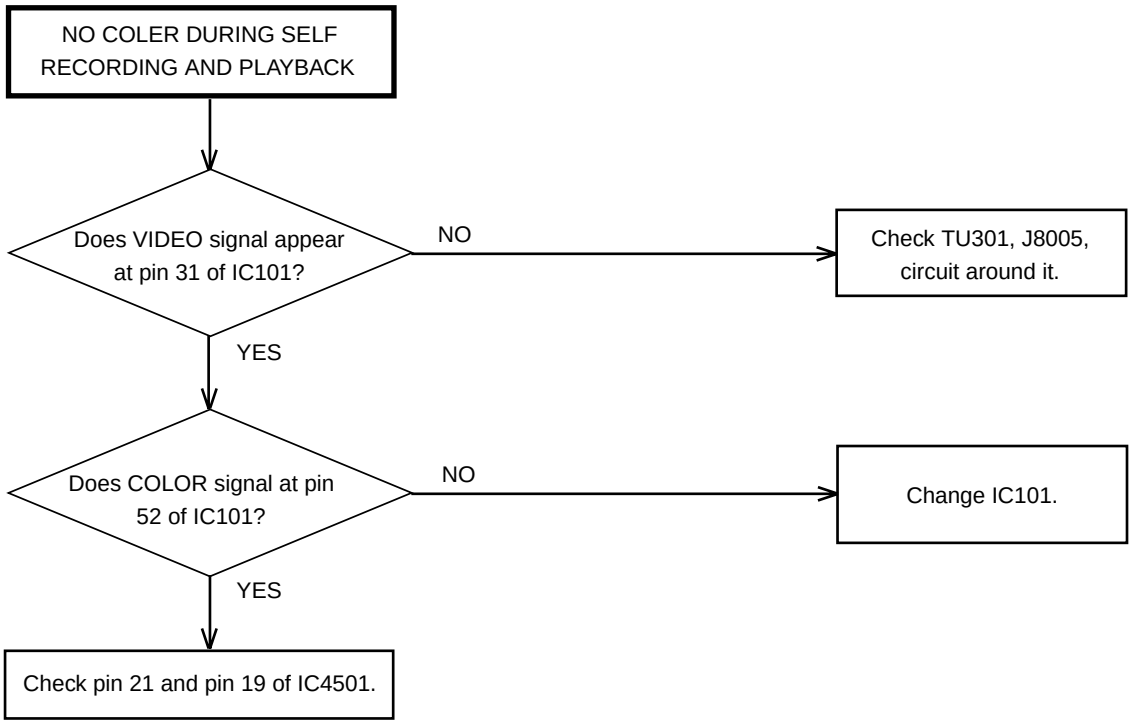

AT PLAYBACK, THE COLOR DOES NOT APPEAR
Does composite signal appear at pin 52 of IC101?
NO
Change IC101.
YES
Check pin 21 and 19 of IC4501.


NO COLER DURING SELF RECORDING AND PLAYBACK
Does VIDEO signal appear at pin 31 of IC101?
NO
Check TU301, J8005, circuit around it.
YES
Does COLOR signal at pin 52 of IC101?
NO
Change IC101.
YES
Check pin 21 and pin 19 of IC4501.

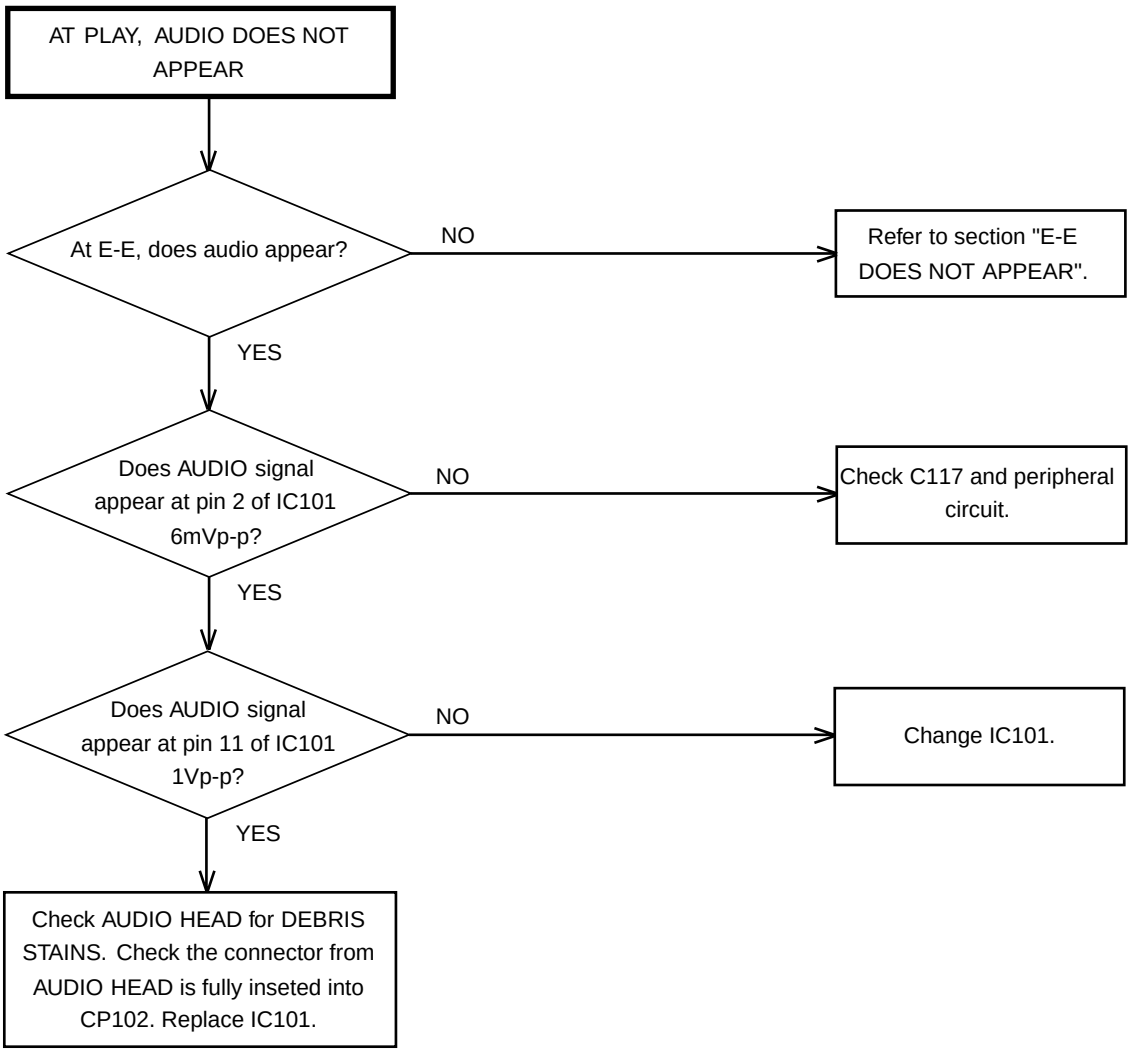
TROUBLESHOOTING GUIDE


AT PLAYBACK AND RECORDING, CYLINDER MOTOR UNLOAD
Is the voltage at pin 8 of CP3001 about DC12.6V?
NO
Check at 12.6V line, power block.
YES
In playback, is at pin 12 of CP3001 about DC2.6V?
NO
Check IC3001.
YES
Change CYLINDER MOTOR.
PLAYBACK PICTURE IS NOISY (EVEN AFTER CLEANING HEADS)
Is FM signal at pin 79 of IC101 270 mVp-p ?
NO
Check CYLINDER.
YES
Is FM signal at pin 8 of IC3001 more than 1V?
YES
Perform the interchange able adjustment of DECK.
NO
Is VIDEO output at the emitter of IC4501 2Vp-p, and are there any noises?
NO
Check IC101 and IC4501.
YES
Change J8005.

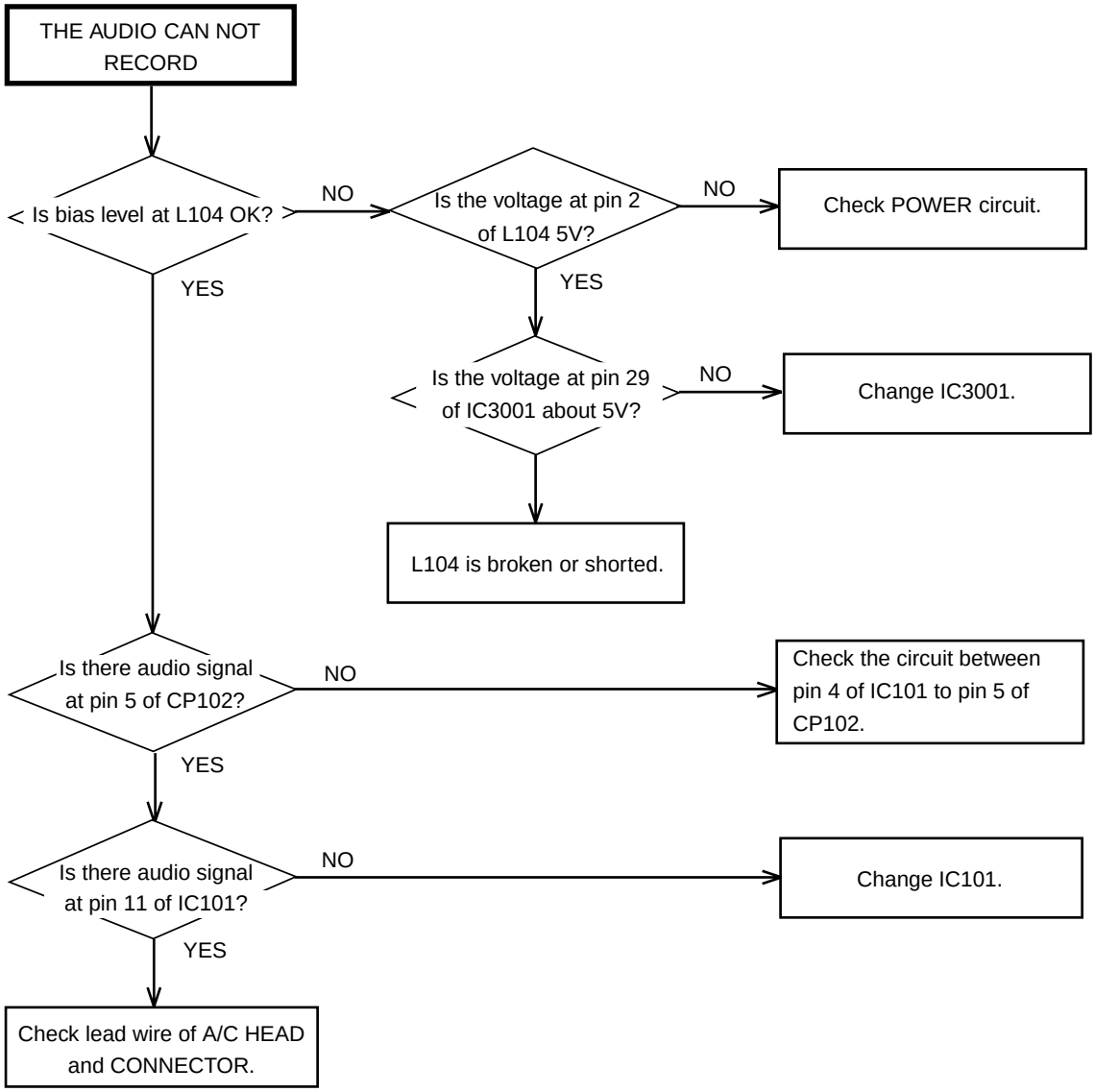
TROUBLESHOOTING GUIDE


NO COLER DURING SELF RECORDING AND PLAYBACK
Does VIDEO signal appear at pin 31 of IC101?
NO
Check TU301, J8005, circuit around it.
YES
Does COLOR signal at pin 52 of IC101?
NO
Change IC101.
YES
Check pin 21 and pin 19 of IC4501.

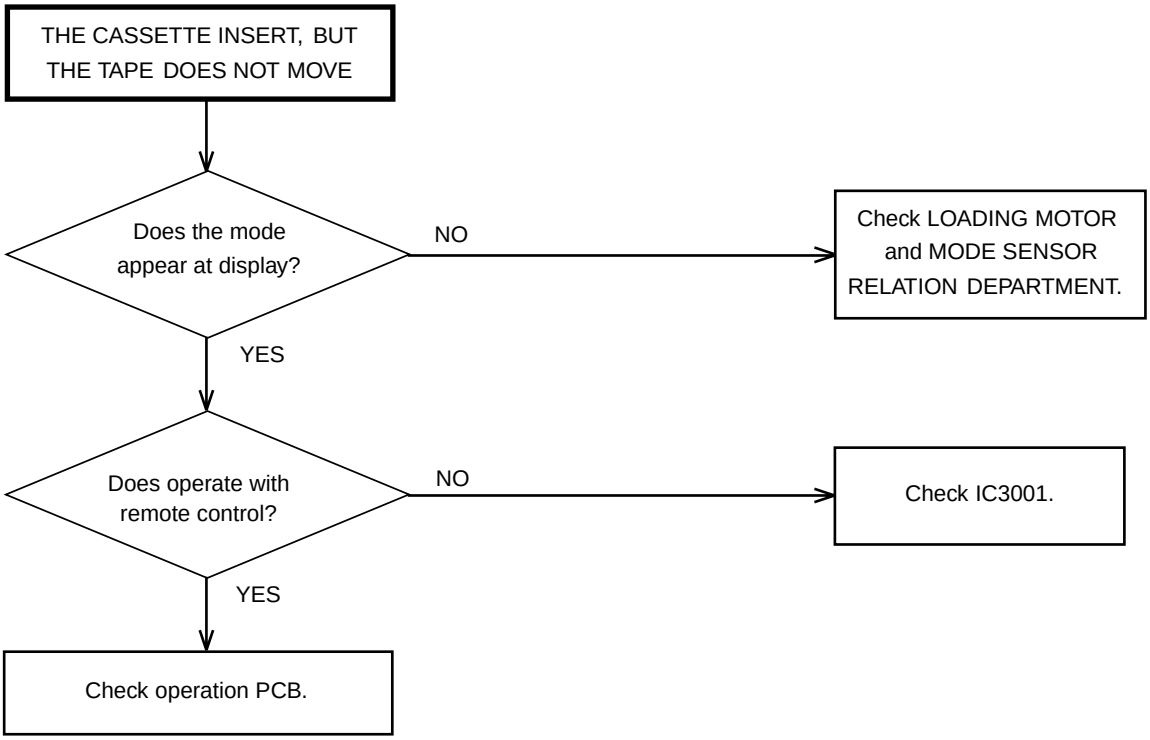
TROUBLESHOOTING GUIDE


AT PLAY, AUDIO DOES NOT APPEAR
At E-E, does audio appear?
NO
Refer to section "E-E DOES NOT APPEAR".
YES
Does AUDIO signal appear at pin 2 of IC101 6mVp-p?
NO
Check C117 and peripheral circuit.
YES
Does AUDIO signal appear at pin 11 of IC101 1Vp-p?
NO
Change IC101.
YES
Check AUDIO HEAD for DEBRIS STAINS. Check the connector from AUDIO HEAD is fully inseted into CP102. Replace IC101.

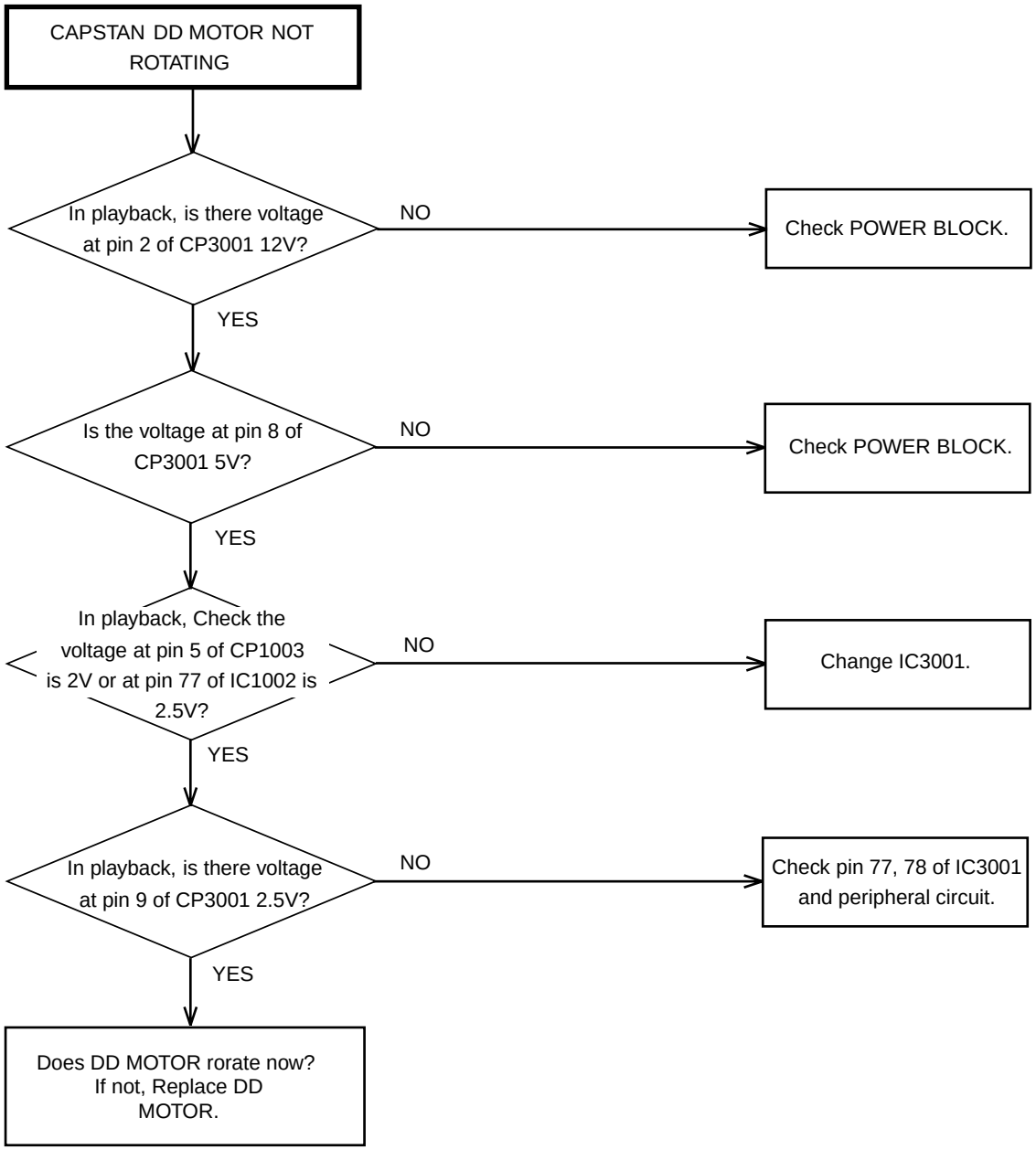
TROUBLESHOOTING GUIDE


THE AUDIO CAN NOT RECORD
Is bias level at L104 OK?
NO
Is the voltage at pin 2 of L104 5V?
NO
Check POWER circuit.
YES
YES
Is the voltage at pin 29 of IC3001 about 5V?
NO
Change IC3001.
L104 is broken or shorted.
Is there audio signal at pin 5 of CP102?
NO
Check the circuit between pin 4 of IC101 to pin 5 of CP102.
YES
Is there audio signal at pin 11 of IC101?
NO
Change IC101.
YES
Check lead wire of A/C HEAD and CONNECTOR.

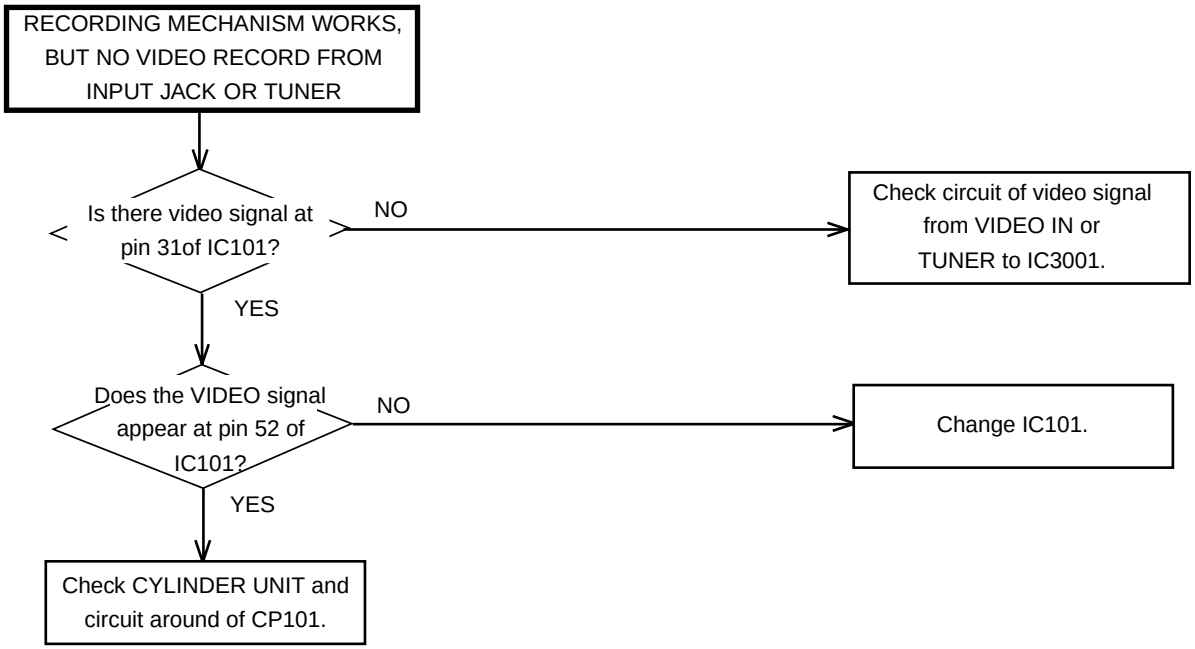
TROUBLESHOOTING GUIDE



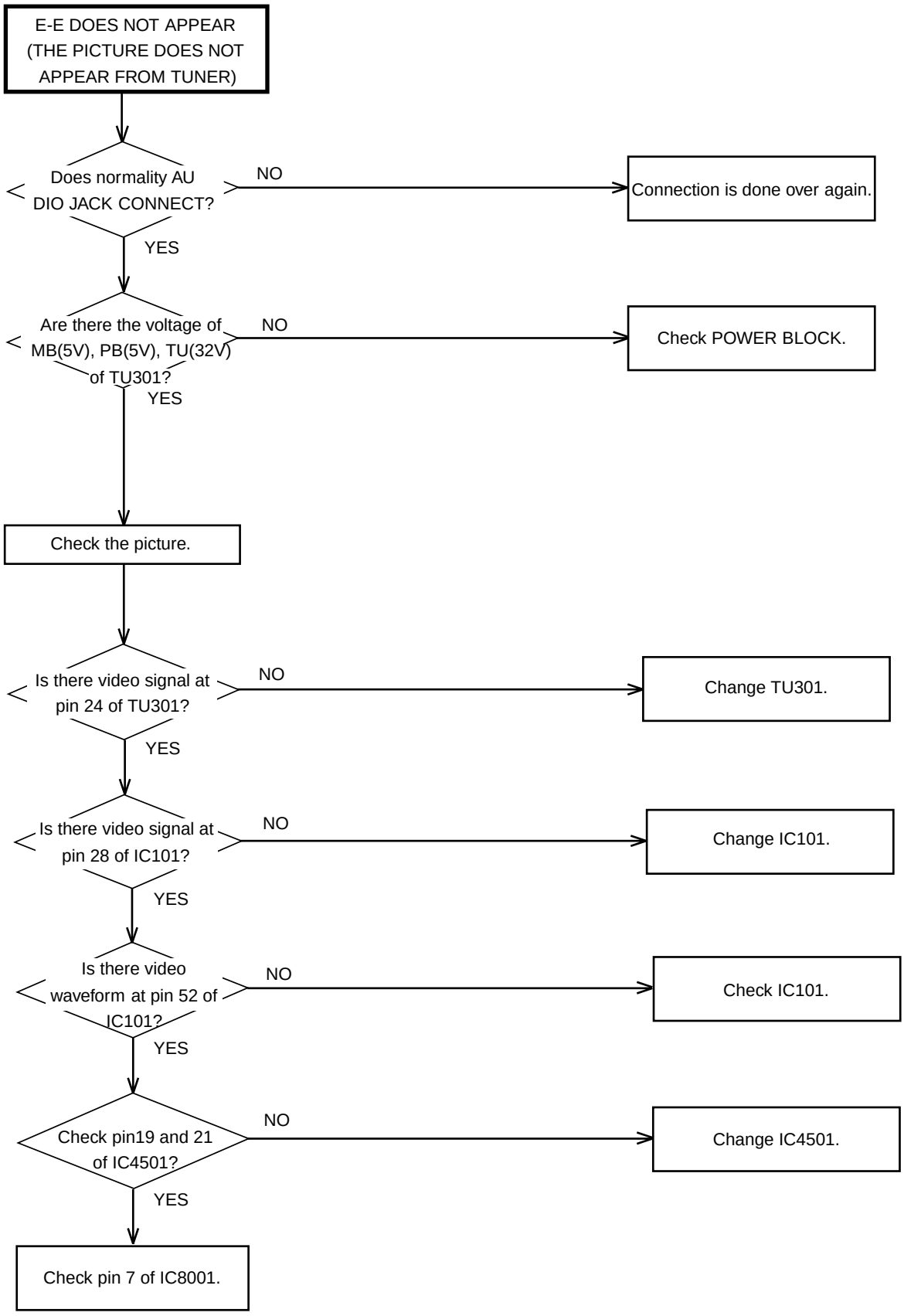
TROUBLESHOOTING GUIDE


CAPSTAN DD MOTOR NOT ROTATING
In playback, is there voltage at pin 2 of CP3001 12V?
NO
Check POWER BLOCK.
YES
Is the voltage at pin 8 of CP3001 5V?
NO
Check POWER BLOCK.
YES
In playback, Check the voltage at pin 5 of CP1003 is 2V or at pin 77 of IC1002 is 2.5V?
NO
Change IC3001.
YES
In playback, is there voltage at pin 9 of CP3001 2.5V?
NO
Check pin 77, 78 of IC3001 and peripheral circuit.
YES
Does DD MOTOR rorate now? If not, Replace DD MOTOR.

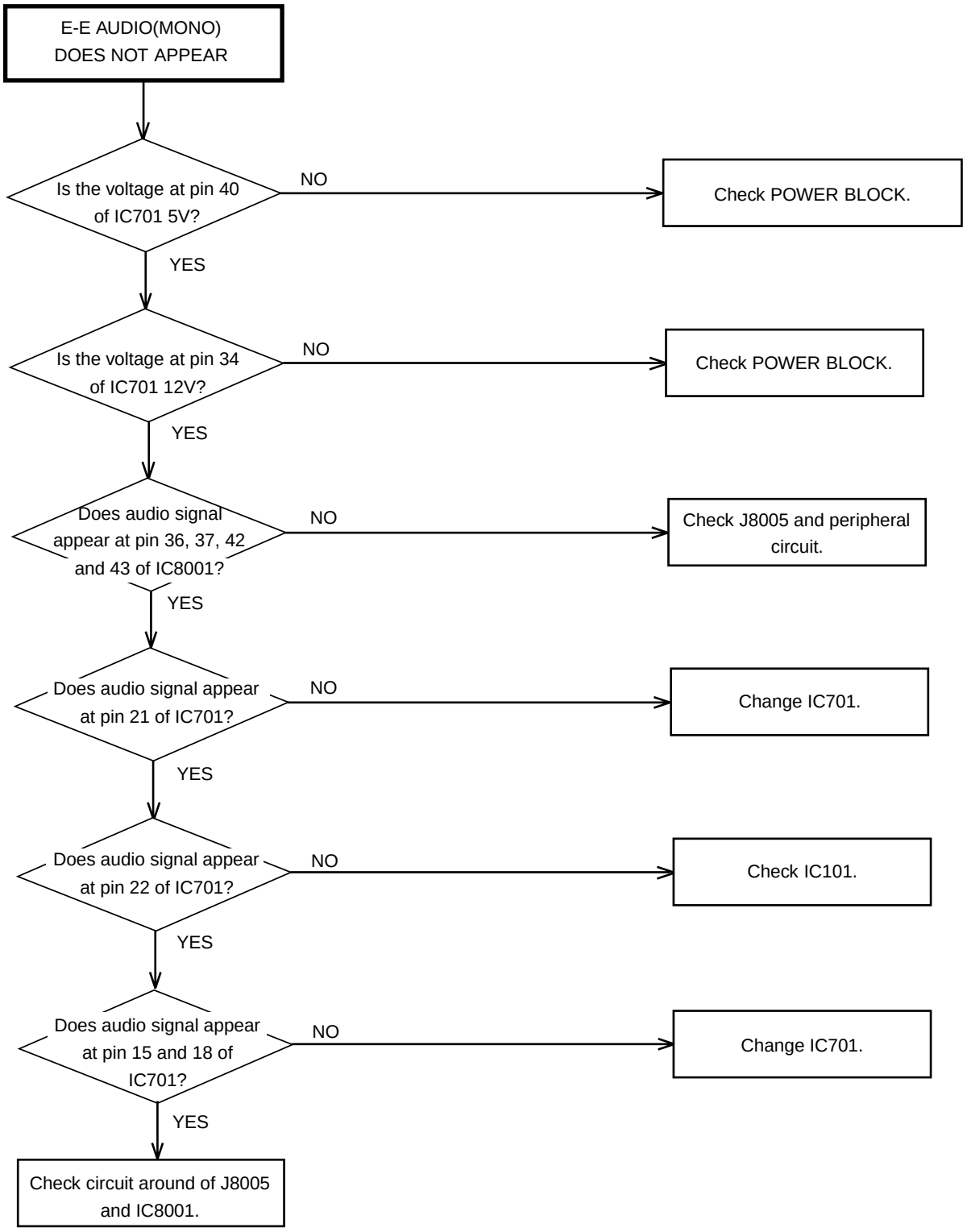
TROUBLESHOOTING GUIDE


RECORDING MECHANISM WORKS, BUT NO VIDEO RECORD FROM INPUT JACK OR TUNER
Is there video signal at pin 31of IC101?
NO
Check circuit of video signal from VIDEO IN or TUNER to IC3001.
YES
Does the VIDEO signal appear at pin 52 of IC101?
NO
Change IC101.
YES
Check CYLINDER UNIT and circuit around of CP101.

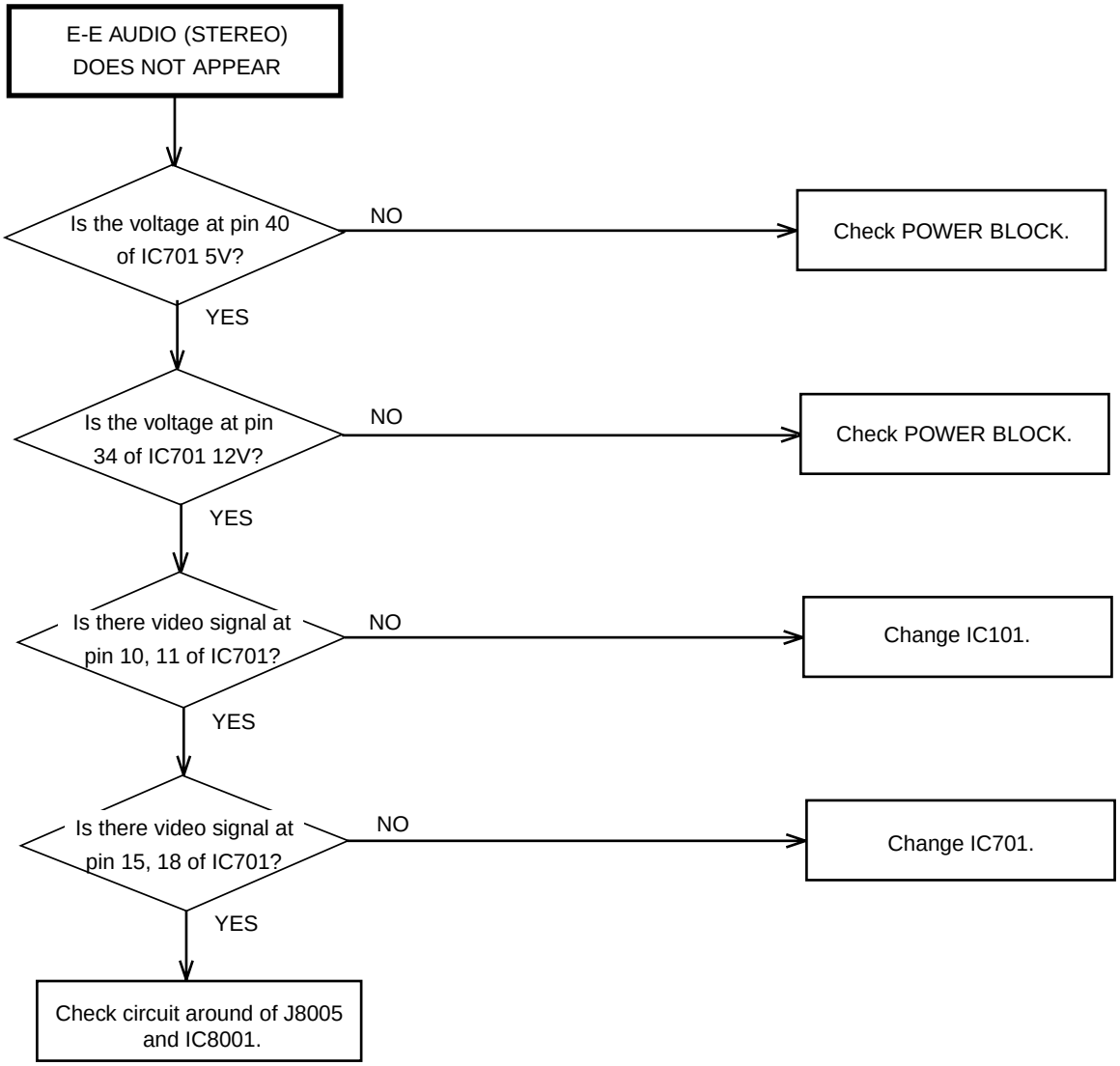
TROUBLESHOOTING GUIDE



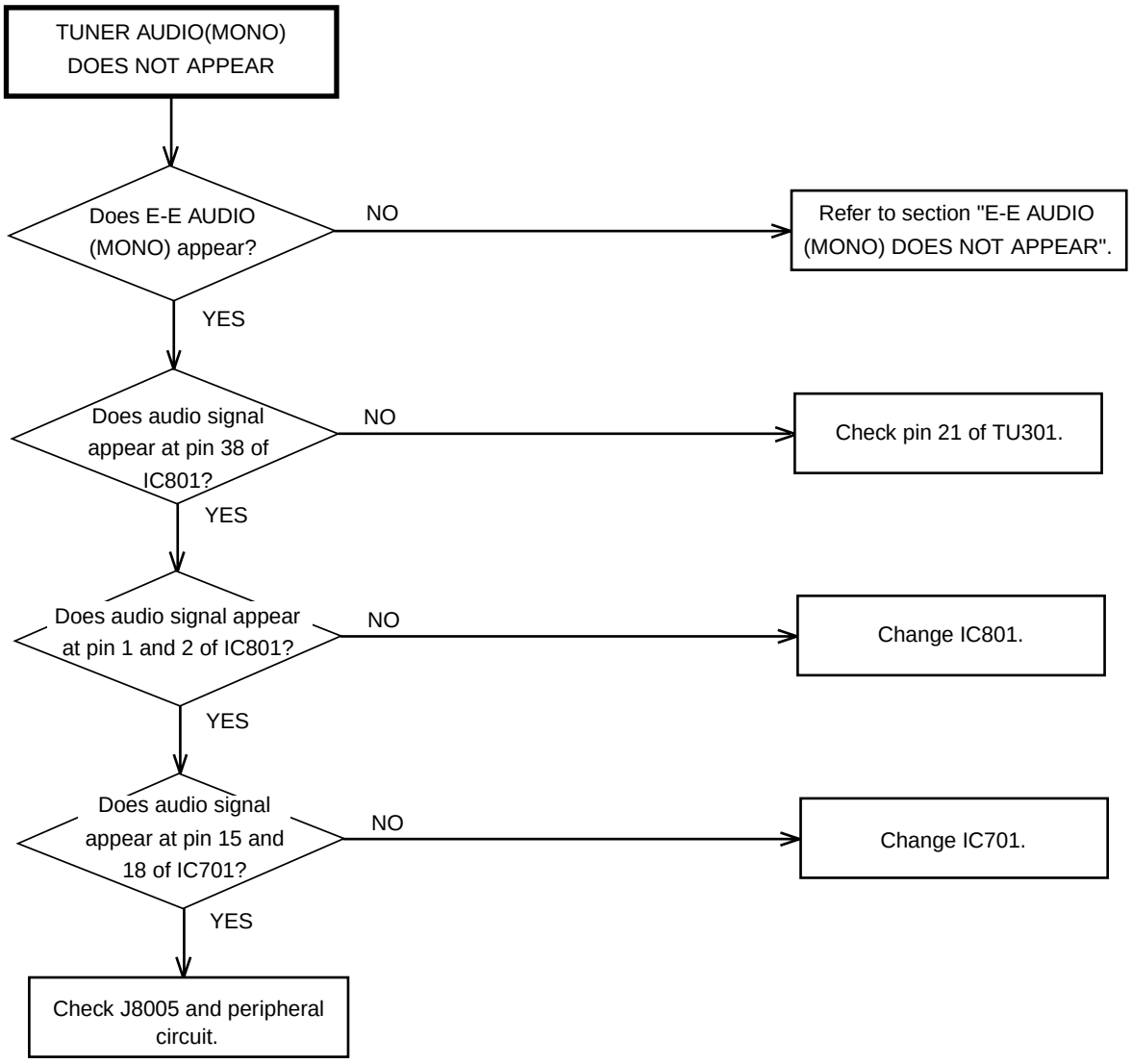
TROUBLESHOOTING GUIDE



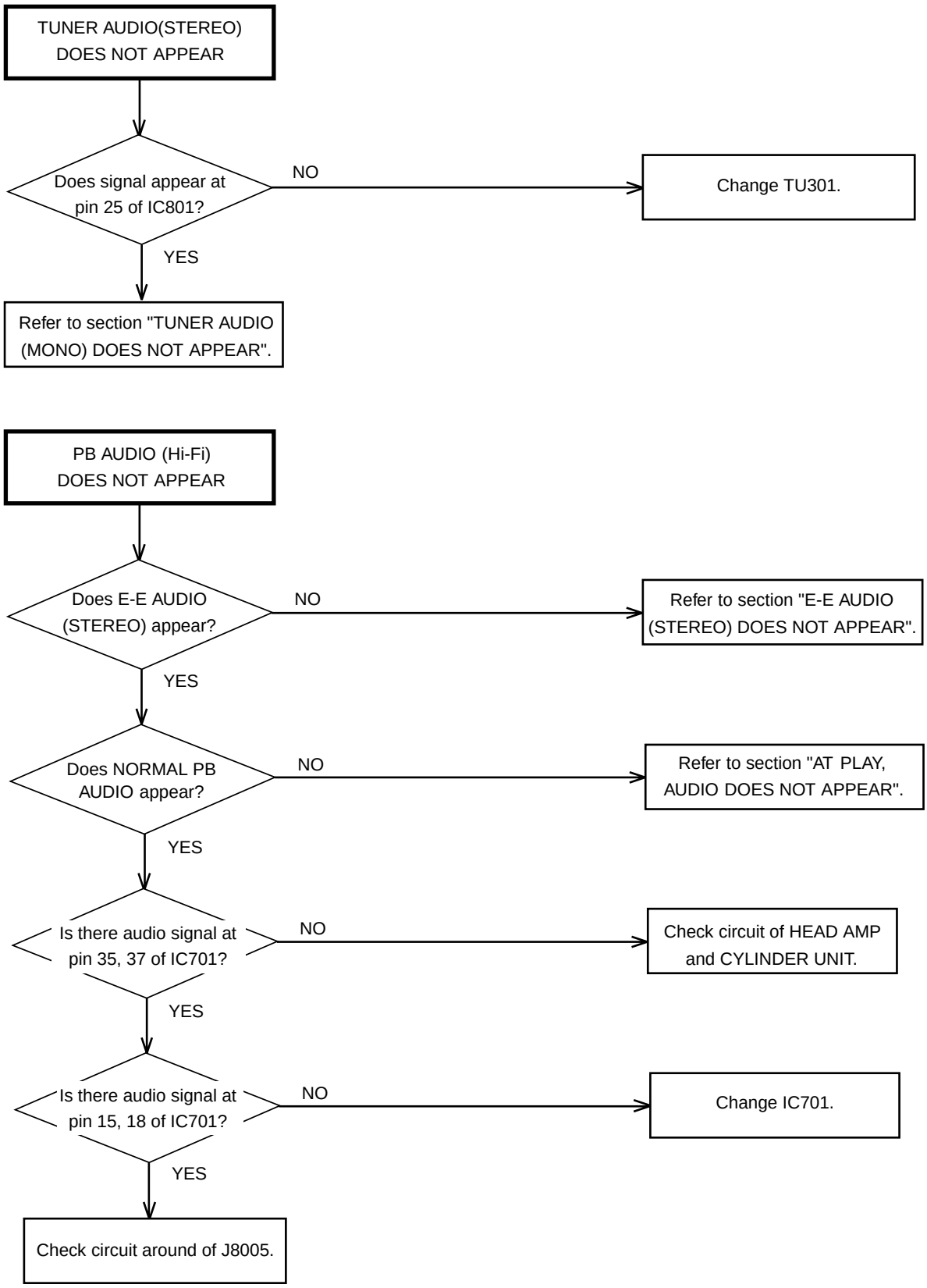
TROUBLESHOOTING GUIDE



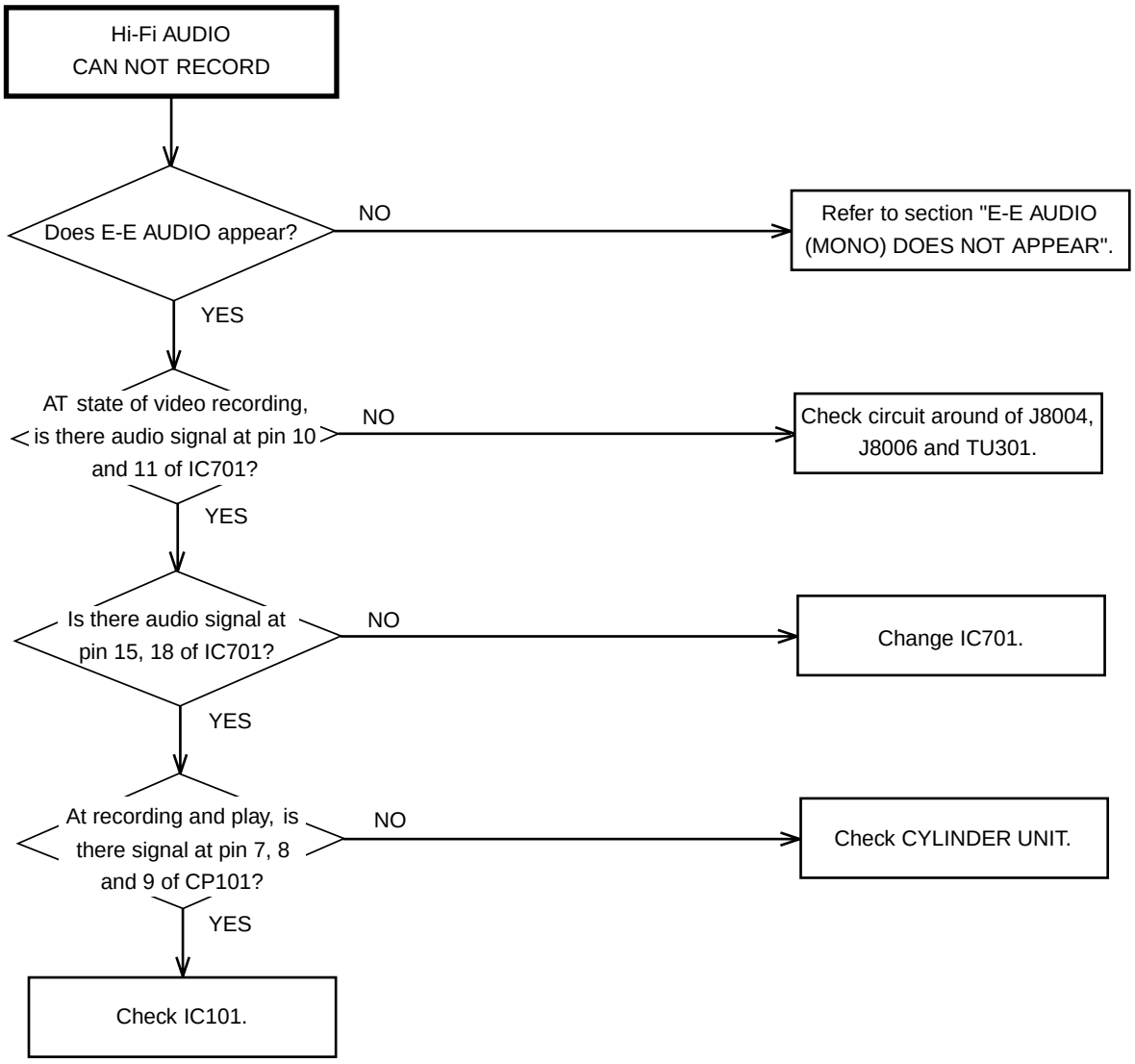
TROUBLESHOOTING GUIDE


TUNER AUDIO(MONO) DOES NOT APPEAR
Does E-E AUDIO (MONO) appear?
NO
Refer to section "E-E AUDIO (MONO) DOES NOT APPEAR".
YES
Does audio signal appear at pin 38 of IC801?
NO
Check pin 21 of TU301.
YES
Does audio signal appear at pin 1 and 2 of IC801?
NO
Change IC801.
YES
Does audio signal appear at pin 15 and 18 of IC701?
NO
Change IC701.
YES
Check J8005 and peripheral circuit.

TROUBLESHOOTING GUIDE

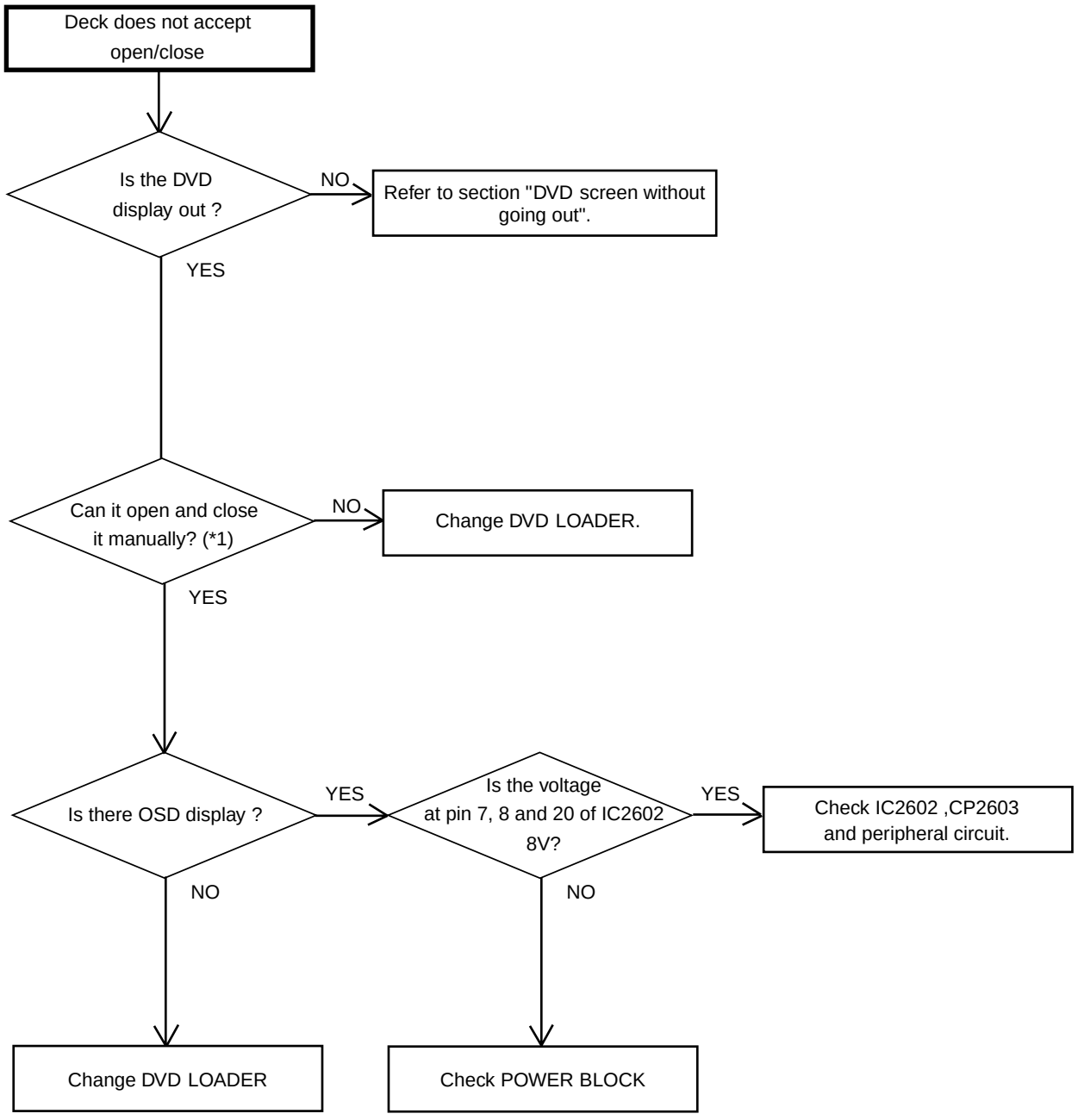


TROUBLESHOOTING GUIDE


Hi-Fi AUDIO
CAN NOT RECORD
Does E-E AUDIO appear?
NO
Refer to section "E-E AUDIO (MONO) DOES NOT APPEAR".
YES
AT state of video recording, is there audio signal at pin 10 and 11 of IC701?
NO
Check circuit around of J8004, J8006 and TU301.
YES
Is there audio signal at pin 15, 18 of IC701?
NO
Change IC701.
YES
At recording and play, is there signal at pin 7, 8 and 9 of CP101?
NO
Check CYLINDER UNIT.
YES
Check IC101.

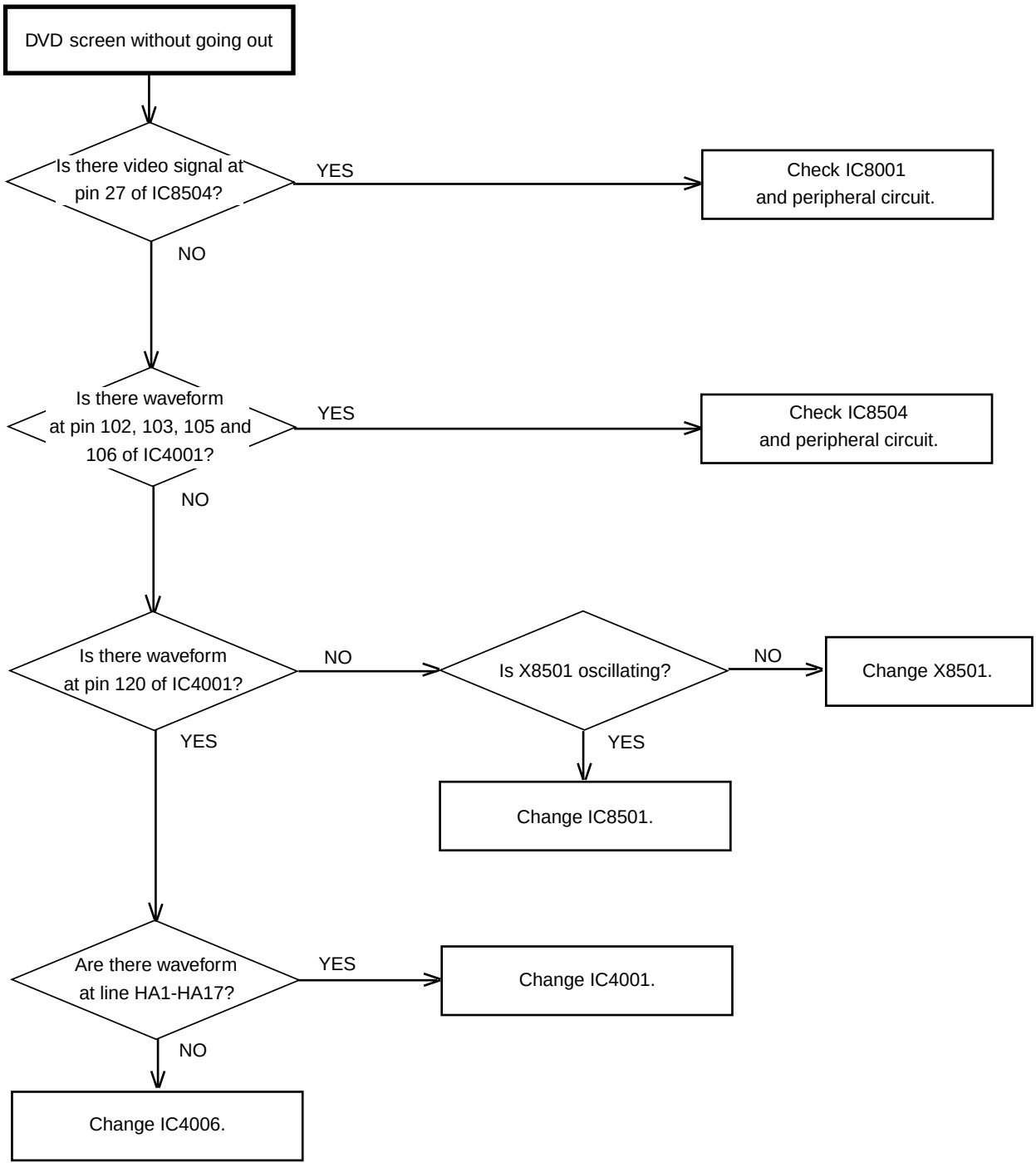
TROUBLESHOOTING GUIDE

(DVD SECTION)

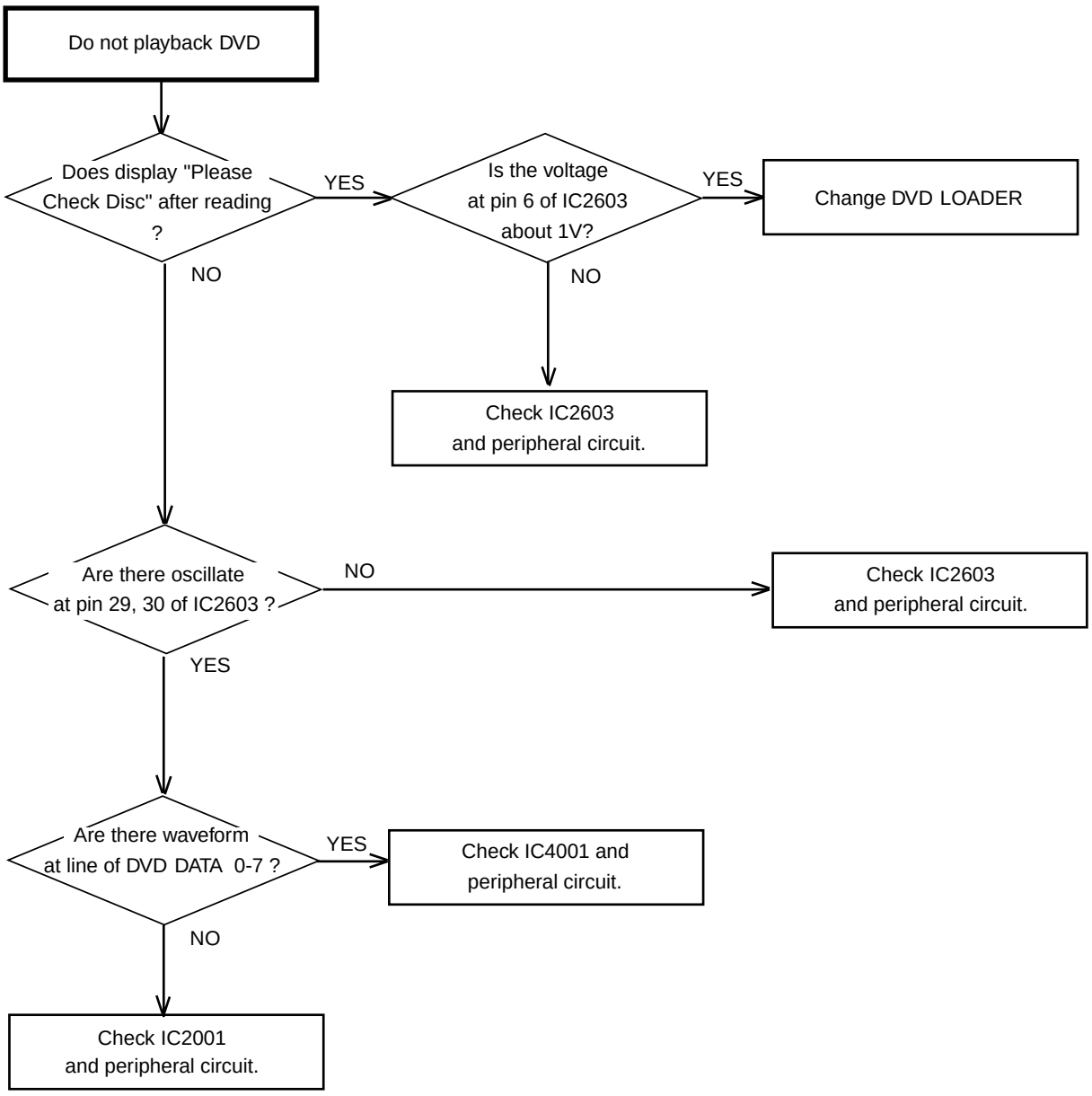


*1:Turn GEAR of DVD DECK front lower part, to open and close TRAY manually

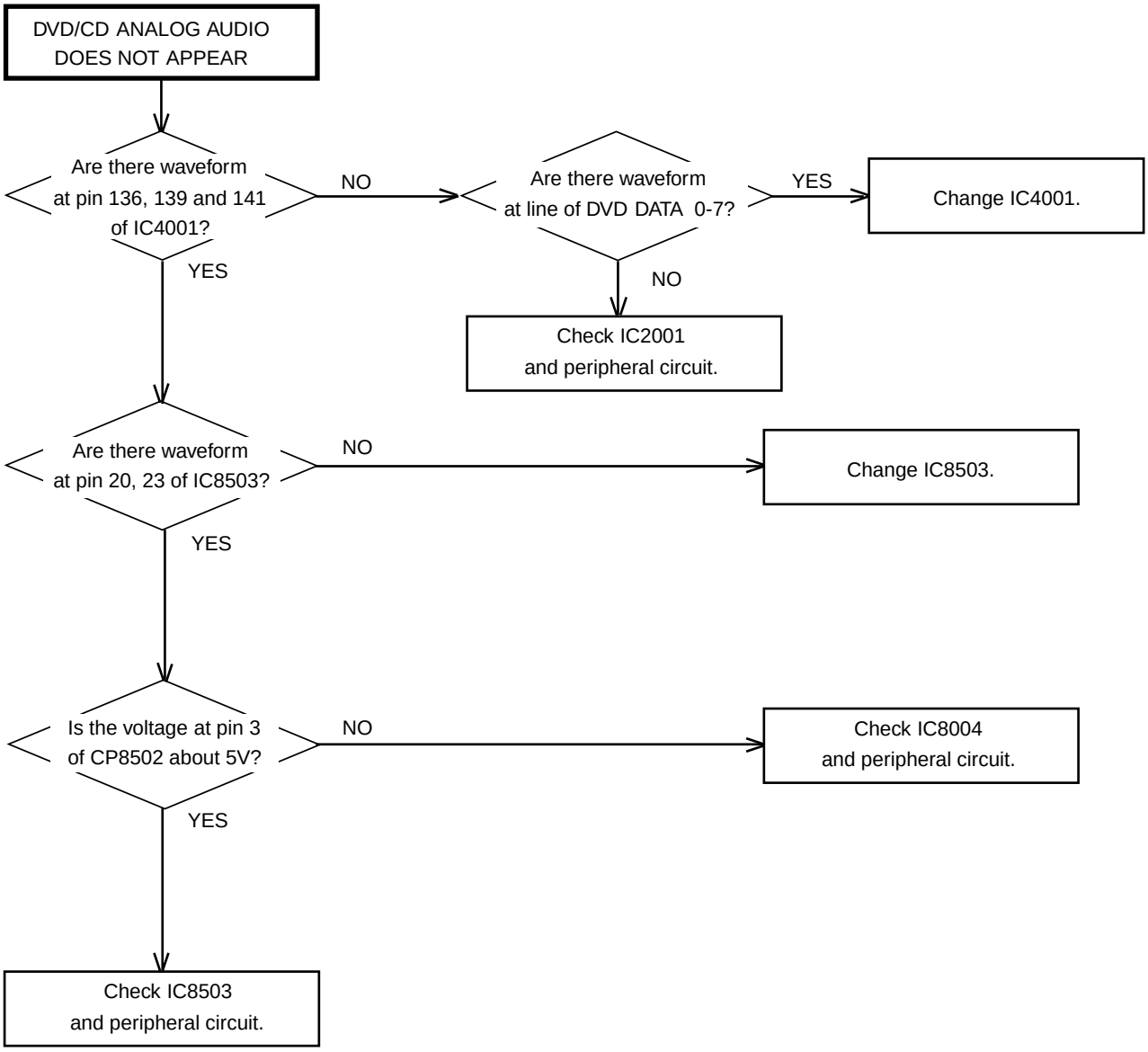
TROUBLESHOOTING GUIDE



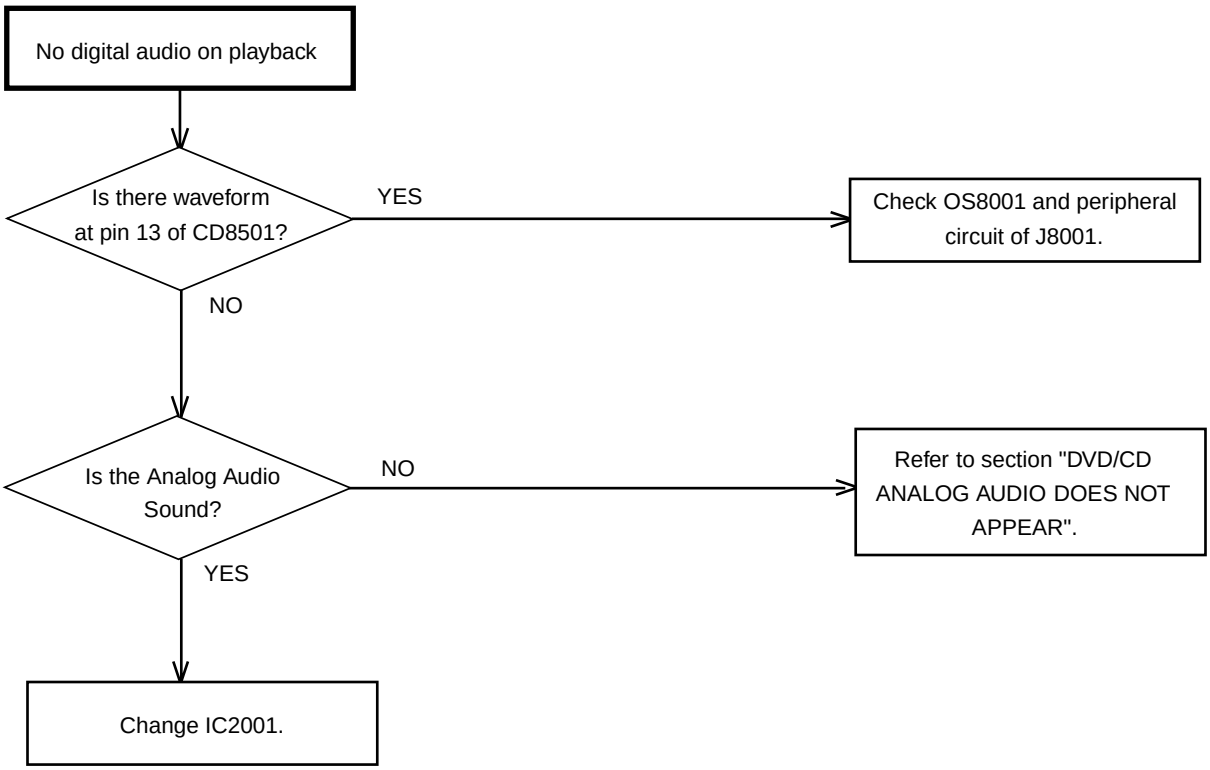
TROUBLESHOOTING GUIDE


Do not playback DVD
Does display "Please Check Disc" after reading ?
YES
Is the voltage at pin 6 of IC2603 about 1V?
YES
Change DVD LOADER
NO
NO
Check IC2603 and peripheral circuit.
Are there oscillate at pin 29, 30 of IC2603 ?
NO
Check IC2603 and peripheral circuit.
YES
Are there waveform at line of DVD DATA 0-7 ?
YES
Check IC4001 and peripheral circuit.
NO
Check IC2001 and peripheral circuit.

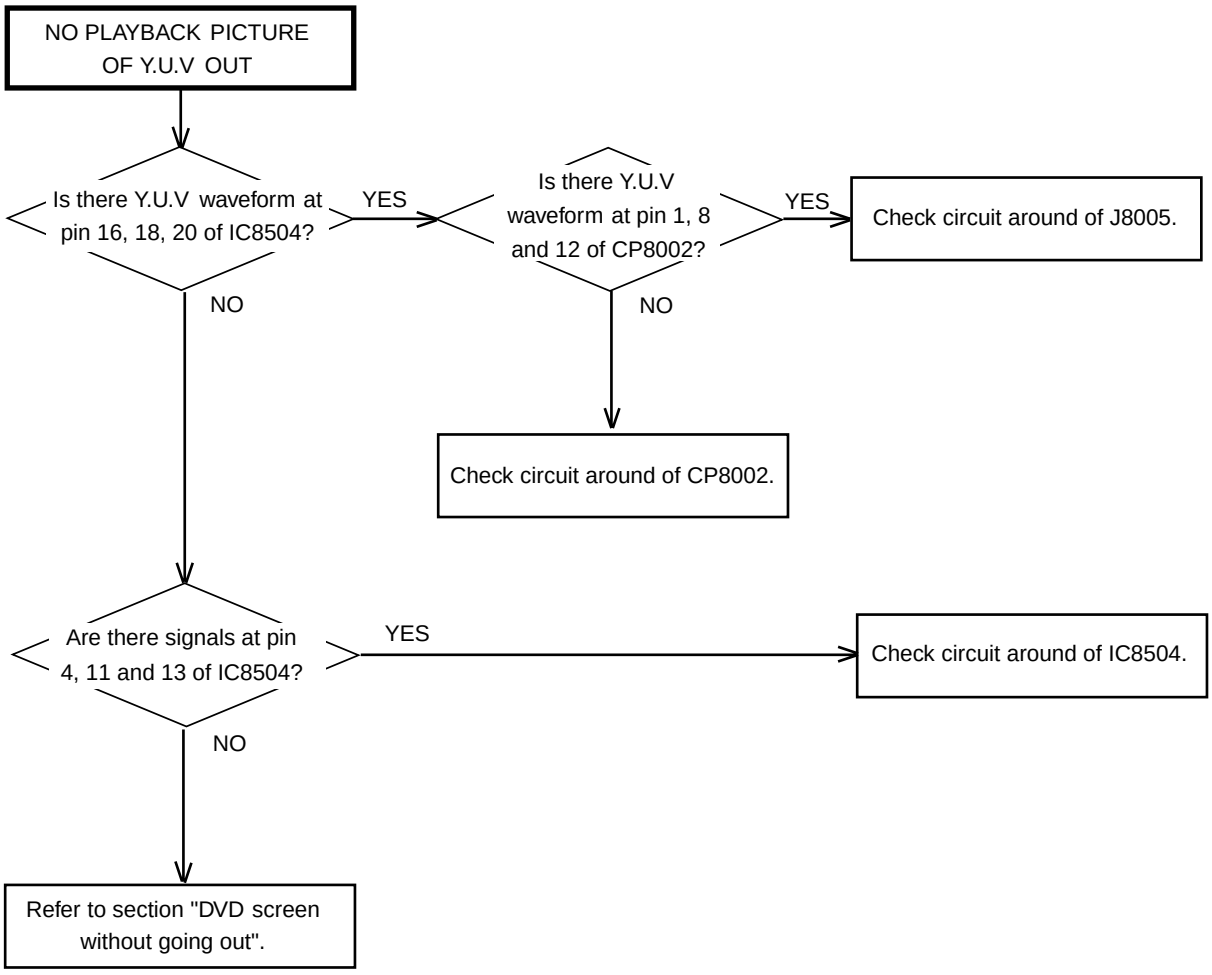
TROUBLESHOOTING GUIDE


DVD/CD ANALOG AUDIO DOES NOT APPEAR
Are there waveform at pin 136, 139 and 141 of IC4001?
NO
Are there waveform at line of DVD DATA 0-7?
YES
Change IC4001.
YES
NO
Check IC2001 and peripheral circuit.
Are there waveform at pin 20, 23 of IC8503?
NO
Change IC8503.
YES
Is the voltage at pin 3 of CP8502 about 5V?
NO
Check IC8004 and peripheral circuit.
YES
Check IC8503 and peripheral circuit.

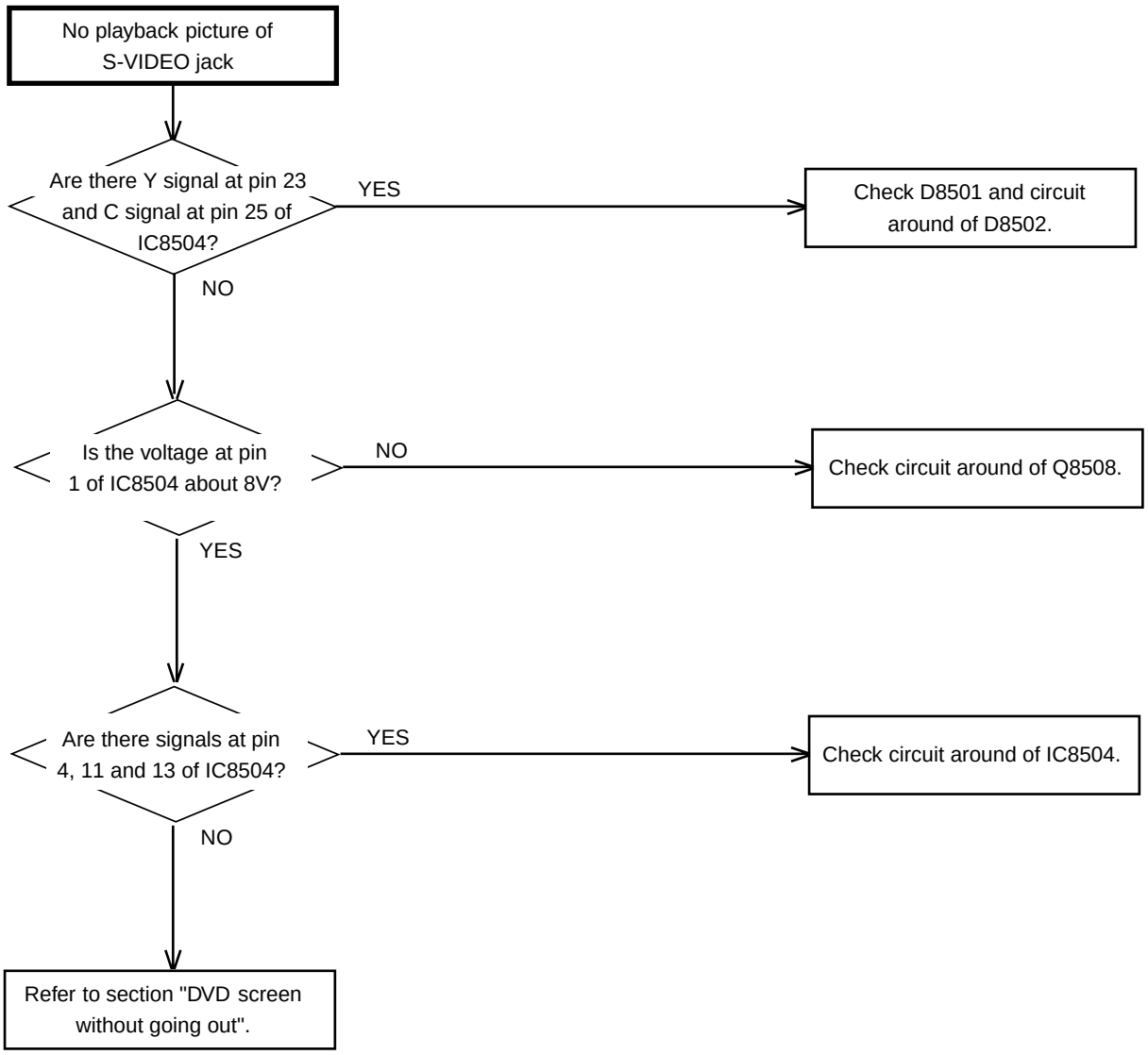
TROUBLESHOOTING GUIDE


No digital audio on playback
Is there waveform at pin 13 of CD8501?
YES
Check OS8001 and peripheral circuit of J8001.
NO
Is the Analog Audio Sound?
NO
Refer to section "DVD/CD ANALOG AUDIO DOES NOT APPEAR".
YES
Change IC2001.

TROUBLESHOOTING GUIDE


NO PLAYBACK PICTURE OF Y.U.V OUT
Is there Y.U.V waveform at pin 16, 18, 20 of IC8504?
YES
Is there Y.U.V waveform at pin 1, 8 and 12 of CP8002?
YES
Check circuit around of J8005.
NO
NO
Check circuit around of CP8002.
Are there signals at pin 4, 11 and 13 of IC8504?
YES
Check circuit around of IC8504.
NO
Refer to section "DVD screen without going out".

TROUBLESHOOTING GUIDE


No playback picture of S-VIDEO jack
Are there Y signal at pin 23 and C signal at pin 25 of IC8504?
YES
Check D8501 and circuit around of D8502.
NO
Is the voltage at pin 1 of IC8504 about 8V?
NO
Check circuit around of Q8508.
YES
Are there signals at pin 4, 11 and 13 of IC8504?
YES
Check circuit around of IC8504.
NO
Refer to section "DVD screen without going out".

<Reference>

GENERAL SPECIFICATIONS [HR-XV1EK]

G-1	Outline of the product				DVD VIDEO PLAYER & VHS Player / Recorder
G-2	DVD System	Color System			PAL
		Disc			DVD, CD-DA, CD-R/RW, VIDEO CD
		Disc Diameter			120 mm , 80 mm
		Deck	Disc Loading System		Front Disc Lording
			Motor		3 Motors
		Pick up			1-Lens 2-Beams System
		Playback time (Max)	DVD 1-Layer		135min (4.7GB)
			DVD 2-Layer		245min (8.5GB)
			CD		74min
			VIDEO CD		74min
		Search speed			Fwd 2-100 times / 4 step (DVD)
					4-8 times / 2 step (CD)
					5-15 times / 2 step (VIDEO CD)
				Actual	2-70 times (DVD)
					4-12times (CD)
					4-18times (VIDEO CD)
					Rev 2-100 times / 4 step (DVD)
					4-8 times / 2 step (CD)
					5-15 times / 2 step (VIDEO CD)
				Actual	2-70 times (DVD)
					4-12times (CD)
					4-18times (VIDEO CD)
		Slow speed			Fwd 1/8-1/2 times (DVD, VIDEO CD)
				Actual	1/7-1/2 times (DVD, VIDEO CD)
					Rev --
				Actual	--
G-3	VCR System	System			VHS Player / Recorder
		Video System			PAL
		Hi-Fi STEREO			Yes
		NTSC PB(PAL60Hz)			Yes
		Deck	DECK		OVD-7
			Loading System		Front
			Motor		3
		Heads	Video Head		4Head
			FM Audio Head		2Head
			Audio /Control		Mono/Yes
			Erase(Full Track Erase)		Yes
		Tape Speed	Rec PAL		SP/LP
			Rec NTSC		-
			Play PAL		SP/LP
			Play NTSC		SP
		Fast Forward / Rewind Time (Approx.) at 25oC			FF:1'48"/REW:1'48"
				with Cassette	E-180
		Forward/Reverse Picture Search	NTSC or PAL-M		SP=3x, 5x
			PAL or SECAM		SP/LP=5x, 7x / 7x, 13x
		Frame Advance			1/10
		Slow Speed			1/5, 1/10,1/30
G-4	Tuning System	Broadcasting System			U.K./I.R. System I/I
		Tuner and Receive CH	System		1Tuner
			Destination		I.R. + CCIR Hyper
			Tuning System		F-Synth
			Input Impedance		VHF/UHF 75 OHM
			CH Coverage		IreE2~E4,X~Z+2,S1~S10,E5~E12, S11~S41,E21~E69
		Intermediate Frequency	Picture(FP)		39.5MHz
			Sound(FS)		33.5MHz
			FP-FS		6.0MHz
		Preset CH			80CH
		RF Converter Output			Yes
			Channel		23~69 CH
			Level/Impedance		73 dBu / 75 Ohm
			Sound Selector		No
		Stereo/Dual TV Sound			NICAM
		Tuner Sound Muting			Yes
G-5	Power	Power Source	AC		230~240V 50Hz
			DC		-
		Power Consumption			22 W at 230V 50Hz
			Stand by		5 W at 230V 50Hz
			Per Year		-- W
		Protector	Power Fuse		Yes
G-6	Regulation		Safety		BEAB
			Radiation		CE
G-7	Temperature		Operation		5oC - 40oC
			Storage		-20oC - 60oC
G-8	Operating Humidity				Less then 80% RH

GENERAL SPECIFICATIONS [HR-XV1EK]

G-9	**Signal**	Video Signal		Output Level	1 V p-p/75 ohm (DVD,VCR)
				S/N Ratio (Weighted)	65 dB(DVD) 53 dB(VCR)
				Horizontal Resolution	500 Lines (DVD) 240 Lines(VCR at SP)
		RGB Signal		Output Level	0.7V p-p / 75 ohm
		Audio Signal		Input Level Microphone	-
				Input Level Line	-3.8 dBm/ 50k ohm(VCR)
			(0dB=0.775Vrms)	Output Level Line	-3.8 dBm/ 1k ohm(DVD,VCR)
				Digital Output Level	0.5 V p-p / 75 ohm(DVD)
				S/N Ratio at (Weighted)	90dB(DVD) 42dB(VCR at SP)
				Harmonic Distortion (1KHz) Typical	0.1% (DVD) 1.5% (VCR at SP)
				Frequency Response : DVD Mode at DVD	4 Hz - 22 KHz
				DVD Mode at VIDEO CD	4 Hz - 20 KHz
				DVD Mode at CD	4 Hz - 20 KHz
				VCR Mode at SP	100Hz - 10 KHz
				VCR Mode at LP	100Hz - 5 KHz
				VCR Mode at SLP	-
		Hi-Fi Audio Signal		Dynamic Range : More than	75dB
				Frequency Response	20Hz ~20kHz
				Wow And Flutter : Less than	0.01 %Wrms
				Channel Separation : More than	60 dB
				Harmonic Distortion : Less than	0.01
G-10	**On Screen Display**	(DVD)	Menu		Yes
				Menu Type	Icon
			Picture		Yes
				TV Shape	Yes
				PAL/Auto	No
				Video Out Select	Yes
			Output Sound		Yes
				Audio Out Select	Yes
				Dynamic Range Control	Yes
				Karaoke Vocal	Yes
			Language		Yes
				On-Screen Language	Yes
				Disc Menu Language	Yes
				Audio Language	Yes
				Subtitle Language	Yes
			Display		Yes
				On-Screen Displays	Yes
				Background	Yes
				Screen Saver	Yes
			Operational		Yes
				Pause/Still	Yes
				Parental Lock	Yes
				Title Stop	Yes
				PBC	Yes
			Initial Setup		Yes
				On-Screen Displays	Yes
				TV Shape	Yes
				Audio Out Select	Yes
			Open		Yes
			Close		Yes
			No disc		Yes
			Reading		Yes
			Play		Yes
			Still/Pause		Yes
			Stop		Yes
			Prohibit Mark		Yes
			Step		Yes
			Skip+		Yes
			Skip-		Yes
			Random		Yes
			Repeat		Yes
			A-B Repeat		Yes
			Slow+ ##		Yes
			Slow- ##		No
			Search+ ##		Yes
			Search- ##		Yes
			Resume		Yes
			Title No.		Yes
			Chapter No.		Yes
			Track No.		Yes
			Time		Yes
			Sub Title No.		Yes
			Angle No.		Yes
			Audio No.		Yes
			Zoom		Yes
			Enter		Yes
			Exit		Yes
			Bit Rate		Yes
			Memory		Yes
			Screen Saver		Yes
			E.A.M		Yes

GENERAL SPECIFICATIONS [HR-XV1EK]

	On Screen Display(VCR)	Menu			Yes	
		Menu	Type		Character	
		ATS				No
		Timer Rec Set			Yes	
		VCR Extension				No
			Auto Repeat On/Off		Yes	
			Scene Repeat			No
			Audio Dubbing			No
		VCR Set-Up			Yes	
			NICAM Auto/Off		Yes	
			Audio Mix On/Off		Yes	
			Color System			No
			Sharpness		Yes	
			BBE On/Off			No
		CH Set-Up			Yes	
			CH Tuning		Yes	
			Auto Tuning			No
			CH Mapping			No
			Guide CH Set		Yes	
		Pin Code Registration				No
		System Set-Up			Yes	
			Clock Set		Yes	(Calendar 24H)
			Language		Yes	
			AV2 DEC/AV			No
		G-CODE(or SHOWVIEW or PLUSCODE)No. Entry			Yes	
		NICAM 1/2,NICAM Off,Audio Output			Yes	
		Stereo,Audio Output,Bilingual				No
		Play/Stop/FF/Rew/Rec/OTR/T-Rec/Pause/E ject/Tape In (Symbol Mark)			Yes	
		Others	CH/AV		Yes	
			Clock/Date		Yes	
			Repeat			No
			Pin Code			No
			Tape Counter		Yes	
			Index		Yes	
			Hotel Lock			No
			Tape Speed		Yes	
			Manual Tracking (Bar Setting)		Yes	
			Hi-Fi		Yes	
			S-Repeat/SR-R/SR-Play			No
			VPS			No
			PDC		Yes	
			TEST Signal		Yes	
G-11	**OSD Language**	DVD OSD			Eng Ger Fre	
		VCR OSD			Eng Ger Fre	
G-12	**Clock,Timer and Timer Back-up**	Calendar			1990/1/1 ~ 2081/12/31	
		Timer Events			8 Program/ 1 Month	
		One Touch Recording Max Time			SP:5Hours LP:10 Hours	
		OTPB Valid Time				No
		Timer Back-up (at Power Off Mode)			30	Min
G-13	**Display**	DISPLAY			Yes	
			DISPLAY type		LED Module (Green, "Rec" &Timer symbol = Red)	
			Clock/Counter,CH,Timer Rec,OTR, Play Rec,FF(Cue),Rew(Rev),Stop,ATR ,Eject			No
			VCR		Yes	
			DVD		Yes	
			CD		Yes	
			Clock		Yes (24h)	
				AM		No
				PM		No
			Counter	VCR	Yes (hour:min)	
				DVD	Yes (hour:min)	
				CD	Yes (min:sec)	
			Counter Remain			No
			Play		Yes	
			Stop			No
			Rec		Yes	
			FF / Cue			No
			REW /Review			No
			Pause/Still		Yes	
			OTR			No
			T-Rec		Yes	
			Chapter			No
			TITLE			No
			TRACK		Yes	
			Repeat			No
			Hi-Fi			No
			SP			No
			LP			No
			SLP			No
			CH		Yes	
			RF Output CH		Yes	
			Auto Tuning		Yes	
			Eject		Yes	
			Tape In		Yes	
			Remocon Custom Code		Yes	

GENERAL SPECIFICATIONS [HR-XV1EK]

G-14	Remote Control	Unit		RC-FO
		Glow in Dark Remocon		Yes
		Format		JVC
		Custom Code		43,53(DVD,VCR), 03(TV)
		Power Source	Voltage(D.C)	3V
			UM size x pcs	UM-3 x 2 pcs
		Total Keys		50 Key
		Keys	Power	Yes
			VCR	Yes
			DVD	Yes
			1	Yes
			2	Yes
			3	Yes
			4	Yes
			5	Yes
			6	Yes
			7	Yes
			8	Yes
			9	Yes
			0/AV	Yes
			DVD MENU	Yes
			MEMORY	Yes
			RETURN	Yes
			OPEN/CLOSE	Yes
			CLOCK / COUNTER	Yes
			SUB TITLE/ATR	Yes
			ANGLE/COUNTER RESET	Yes
			ZERO RETURN	Yes
			PLAY MODE/SPEED	Yes
			ZOOM	Yes
			TITLE	Yes
			REPEAT A-B	Yes
			PROGRAM/G-CODE	Yes
			T-REC	Yes
			TV Vol.+	Yes
			TV Vol.-	Yes
			TV/VCR	Yes
			TV Input	Yes
			FF(Cue)/SEARCH+	Yes
			REW(Review)/SEARCH-	Yes
			PLAY	Yes
			STOP	Yes
			PAUSE/STILL	Yes
			REC/OTR	Yes
			SKIP+ / INDEX+	Yes
			SKIP- / INDEX-	Yes
			UP/CH+	Yes
			DOWN/CH-	Yes
			LEFT/ SET- / TRACKING-	Yes
			RIGHT/ SET+ / TRACKING+	Yes
			SELECT/ENTER	Yes
			SET UP MENU/ VCR MENU	Yes
			CLEAR/CANCEL	Yes
			DISPLAY/CALL	Yes
			AUDIO / AUDIO SELECT	Yes
			SLOW(Forward)	Yes
			CM SKIP(Skip search)	Yes
		Slide SW	TV / VCR&DVD Select	Yes

GENERAL SPECIFICATIONS [HR-XV1EK]

G-15	Features (DVD)	Auto Power Off			No
		Parental Lock		Yes	
		Video CD Playback		Yes	
		MP3 Playback		Yes	
		Digital Out	Dolby Digital	Yes	
			PCM	Yes	
			DTS	Yes	
			MPEG1,MPEG2	Yes	
		Down Mix Out	(Dolby Digital, MPEG1,MPEG2)	Yes	
		Self Diagnostic			No
		Spatializer (N-2-2)		Yes	
		Screen Saver		Yes	
		Frame Advance		Yes	
		One Touch Replay (10 Sec reverse)			No
	Features (VCR)	Auto Head Cleaning			No
		Auto Tracking		Yes	
		Index Search		Yes	
		HQ (VHS Standard High Quality)		Yes	
		Auto Power On, Auto Play, Auto Rewind, Auto Eject		Yes	
		Auto Repeat		Yes	
		Auto Power Off			No
		VIDEO PLUS+(SHOWVIEW,G-CODE)		Yes	
		ATS			No
		Auto Set Up (CH Auto Set-Up/Auto Clock)		Yes	
		PDC		Yes	
		VPS			No
		Reverse Slow			No
		One Touch Playback			No
		Picture Control(Sharpness)		Yes	
		Channel Lock			No
		Hotel Lock			No
		Anti Theft			No
		Audio Dubbing			No
		Remote Control Code 1/2		Yes	
		BBE Audio			No
		Rec END Search			No
		SQPB(PAL SP MODE)		Yes	
		CATV			No
		CM Skip(30sec x 6 Times)		Yes	
G-16	Accessories	Owner's Manual		Yes	
			Language	English	
			w/Guarantee Card		No
		Remote Control Unit		Yes	
		Dew Cation Sheet			No
		Battery		Yes	
			UM size x pcs	UM-3 x 2 pcs	
		Tape Rewinder			No
		Safety Tip			No
		Toll Free Insert Sheet			No
		Quick Set-Up Sheet			No
		Information Sheet			No
		75 Ohm Coaxial Cable		Yes (0.9m)	
			type	Single shield	
		U/V Mixer			No
		DC Car Cord (Center+)			No
		Guarantee Card	European Guarantee	Yes	
			1Year Guarantee	Yes	
		Warning Sheet			No
		Circuit Diagram			No
		Antenna Change Plug			No
		Service Facility List			No
		Important Safeguard			No
		Dew/AHC Caution Sheet			No
		AC Plug Adapter			No
		AC Cord			No
		AV Cord (2Pin-1Pin)			No
		Registration Card			No
		21pin Cable			No
		300 ohm to 75 ohm Antenna Adapter			No

GENERAL SPECIFICATIONS [HR-XV1EK]

G-17	**Interface**	Switch	Front	Power	Yes
				Play	Yes
				Eject (VCR)	Yes
				Stop	Yes
				Rec/OTR	Yes
				Open/Close (DVD)	Yes
				CH +	Yes
				CH -	Yes
				FF/ Search(>>)	Yes
				Rew/Search(<<)	Yes
				Still/Pause	No
				Shuttle(Search/REV/FWD)	No
				DVD/VCR	Yes
				Input Select	No
				Main Power SW	No
			Rear	Attenuator	No
				Video/RGB Selector	No
				RF Out(Slide SW)	No
				Main Power SW	No
		Volume		Phones Volume	No
				Mic Volume	No
				Echo Volume	No
				Rec/OTR	No
		Terminals	Front	Video In	RCA x1(Yellow)
				Audio In	RCA x 2(Stereo, White/Red)
			Rear	Video Output	No
				Audio Output	RCA x 2(Stereo, White/Red) Coaxial x 1 (Digital Audio,DVD Signal Only)
				Video Input	No
				Audio Input	No
				Optical Digital Audio Out (Option)	Yes
				Euro Scart	2SCART
				S-Video Output	Yes (DVD Signal Only)
				Ext Speaker	No
				VHF/UHF Antenna Input/Output	DIN Type
				AC Inlet	No
		Indicator	LED	Power	No
				Rec	No
				T-Rec	No
				TV/VCR	No
				DVD	Yes (GREEN)
				VCR	Yes (GREEN)
				Surround	No
				Level Meter	No
G-18	**Set Size**			Approx. W x D x H (mm)	430 x 310.5 x 99
G-19	**Weight**			Net (Approx.)	4.5 kg(9.9lbs)
				Gross (Approx.)	5.5 kg(12.1lbs)
G-20	**Carton**		Master Carton		No
				Content	--- Sets
				Material	--- / ---
				Dimensions W x D x H(mm)	---
				Description of Origin	---
			Gift Box		Yes
				Material	Single/Brown
				W/Color Phote Label	No
				Dimensions W x D x H(mm)	500 x 430 x 180
				Pulp Package	No
				Design	As Per BUYER 's
				Description of Origin	No
			Drop Test	Natural Dropping At	1 Corner / 3 Edges / 6 Surfaces
				Height (cm)	80 cm
			Container Stuffing		1,623 Sets/40' container
G-21	**Cabinet Material**			Cabinet Front	PS 94HB

<Reference>

GENERAL SPECIFICATIONS [HR-XV1EU-C]

G-1	**Outline of the product**				DVD VIDEO PLAYER & VHS Player / Recorder
G-2	**DVD System**	Color System			PAL
		Disc			DVD, CD-DA, CD-R/RW, VIDEO CD
		Disc Diameter			120 mm , 80 mm
		Deck	Disc Loading System		Front Disc Loading
			Motor		3 Motors
		Pick up			1-Lens 2-Beams System
		Playback time (Max)	DVD 1-Layer		135min (4.7GB)
			DVD 2-Layer		245min (8.5GB)
			CD		74min
			VIDEO CD		74min
		Search speed			Fwd 2-100 times / 4 step (DVD)
					4-8 times / 2 step (CD)
					5-15 times / 2 step (VIDEO CD)
				Actual	2-70 times (DVD)
					4-12times (CD)
					4-18times (VIDEO CD)
					Rev 2-100 times / 4 step (DVD)
					4-8 times / 2 step (CD)
					5-15 times / 2 step (VIDEO CD)
				Actual	2-70 times (DVD)
					4-12times (CD)
					4-18times (VIDEO CD)
		Slow speed			Fwd 1/8-1/2 times (DVD, VIDEO CD)
				Actual	1/7-1/2 times (DVD, VIDEO CD)
					Rev --
				Actual	--
G-3	**VCR System**	System			VHS Player / Recorder
		Video System			PAL
		Hi-Fi STEREO			Yes
		NTSC PB(PAL60Hz)			Yes
		Deck	DECK		OVD-7
			Loading System		Front
			Motor		3
		Heads	Video Head		4Head
			FM Audio Head		2Head
			Audio /Control		Mono/Yes
			Erase(Full Track Erase)		Yes
		Tape Speed	Rec PAL		SP/LP
			Rec NTSC		-
			Play PAL		SP/LP
			Play NTSC		SP
		Fast Forward / Rewind Time (Approx.) at 25oC			FF:1'48"/REW:1'48"
				with Cassette	E-180
		Forward/Reverse Picture Search	NTSC or PAL-M		SP=3x, 5x
			PAL or SECAM		SP/LP=5x, 7x / 7x, 13x
		Frame Advance			1/10
		Slow Speed			1/5, 1/10,1/30
G-4	**Tuning System**	Broadcasting System			CCIR System BG
		Tuner and Receive CH	System		1Tuner
			Destination		Oscar(W/HYPER)
			Tuning System		F-Synth
			Input Impedance		VHF/UHF 75 OHM
			CH Coverage		E2~E4, X~Z+2, S1~S10, E5 E12 S11 S41 E21 E69
		Intermediate Frequency	Picture(FP)		38.9 MHz
			Sound(FS)		33.4 MHz
			FP-FS		5.5 MHz
		Preset CH			80CH
		RF Converter Output			Yes
			Channel		23~69 CH
			Level/Impedance		73 dBu / 75 Ohm
			Sound Selector		No
		Stereo/Dual TV Sound			G.ST/NICAM DUAL
		Tuner Sound Muting			Yes
G-5	**Power**	Power Source	AC		230V 50Hz
			DC		-
		Power Consumption			22 W at 230V 50Hz
			Stand by		5 W at 230V 50Hz
			Per Year		-- W
		Protector	Power Fuse		Yes
G-6	**Regulation**		Safety		SEMKO
			Radiation		CE
G-7	**Temperature**		Operation		5oC - 40oC
			Storage		-20oC - 60oC
G-8	**Operating Humidity**				Less then 80% RH

GENERAL SPECIFICATIONS [HR-XV1EU-C]

G-9	Signal	Video Signal		Output Level	1 V p-p/75 ohm (DVD,VCR)
				S/N Ratio (Weighted)	65 dB(DVD) 53 dB(VCR)
				Horizontal Resolution	500 Lines (DVD) 240 Lines(VCR at SP)
		RGB Signal		Output Level	0.7V p-p / 75 ohm
		Audio Signal		Input Level Microphone	-
				Input Level Line	-3.8 dBm/ 50k ohm(VCR)
			(0dB=0.775Vrms)	Output Level Line	-3.8 dBm/ 1k ohm(DVD,VCR)
				Digital Output Level	0.5 V p-p / 75 ohm(DVD)
				S/N Ratio at (Weighted)	90dB(DVD) 42dB(VCR at SP)
				Harmonic Distortion (1KHz) Typical	0.1% (DVD) 1.5% (VCR at SP)
				Frequency Response : DVD Mode at DVD	4 Hz - 22 KHz
				DVD Mode at VIDEO CD	4 Hz - 20 KHz
				DVD Mode at CD	4 Hz - 20 KHz
				VCR Mode at SP	100Hz - 10 KHz
				VCR Mode at LP	100Hz - 5 KHz
				VCR Mode at SLP	-
		Hi-Fi Audio Signal		Dynamic Range : More than	75dB
				Frequency Response	20Hz ~20kHz
				Wow And Flutter : Less than	0.01 %Wrms
				Channel Separation : More than	60 dB
				Harmonic Distortion : Less than	0.01
G-10	On Screen Display	(DVD)	Menu		Yes
				Menu Type	Icon
			Picture		Yes
				TV Shape	Yes
				PAL/Auto	No
				Video Out Select	Yes
			Output Sound		Yes
				Audio Out Select	Yes
				Dynamic Range Control	Yes
				Karaoke Vocal	Yes
			Language		Yes
				On-Screen Language	Yes
				Disc Menu Language	Yes
				Audio Language	Yes
				Subtitle Language	Yes
			Display		Yes
				On-Screen Displays	Yes
				Background	Yes
				Screen Saver	Yes
			Operational		Yes
				Pause/Still	Yes
				Parental Lock	Yes
				Title Stop	Yes
				PBC	Yes
			Initial Setup		Yes
				On-Screen Displays	Yes
				TV Shape	Yes
				Audio Out Select	Yes
			Open		Yes
			Close		Yes
			No disc		Yes
			Reading		Yes
			Play		Yes
			Still/Pause		Yes
			Stop		Yes
			Prohibit Mark		Yes
			Step		Yes
			Skip+		Yes
			Skip-		Yes
			Random		Yes
			Repeat		Yes
			A-B Repeat		Yes
			Slow+ ##		Yes
			Slow- ##		No
			Search+ ##		Yes
			Search- ##		Yes
			Resume		Yes
			Title No.		Yes
			Chapter No.		Yes
			Track No.		Yes
			Time		Yes
			Sub Title No.		Yes
			Angle No.		Yes
			Audio No.		Yes
			Zoom		Yes
			Enter		Yes
			Exit		Yes
			Bit Rate		Yes
			Memory		Yes
			Screen Saver		Yes
			E.A.M		Yes

GENERAL SPECIFICATIONS [HR-XV1EU-C]

	On Screen Display(VCR)	Menu			Yes	
			Menu	Type	Character	
			ATS		Yes	
			Timer Rec Set		Yes	
			VCR Extension		Yes	
				Auto Repeat On/Off	Yes	
				Scene Repeat	Yes	
				Audio Dubbing		No
			VCR Set-Up		Yes	
				NICAM Auto/Off	Yes	
				Audio Mix On/Off	Yes	
				Color System		No
				Sharpness	Yes	
				BBE On/Off		No
			CH Set-Up		Yes	
				CH Tuning	Yes	
				Auto Tuning		No
				CH Mapping	Yes	
				Guide CH Set		No
			Pin Code Registration			No
			System Set-Up		Yes	
				Clock Set	Yes	(Calendar 24H)
				Language	Yes	
				AV2 DEC/AV	Yes	
		G-CODE(or SHOWVIEW or PLUSCODE)No. Entry			Yes	
		NICAM 1/2,NICAM Off,Audio Output			Yes	
		Stereo,Audio Output,Bilingual			Yes	
		Play/Stop/FF/Rew/Rec/OTR/T-Rec/Pause/E ject/Tape In (Symbol Mark)			Yes	
		Others		CH/AV	Yes	
				Clock/Date	Yes	
				Repeat		No
				Pin Code		No
				Tape Counter	Yes	
				Index	Yes	
				Hotel Lock		No
				Tape Speed	Yes	
				Manual Tracking (Bar Setting)	Yes	
				Hi-Fi	Yes	
				S-Repeat/SR-R/SR-Play	Yes	
				VPS	Yes	
				PDC	Yes	
				TEST Signal	Yes	
G-11	**OSD Language**		DVD OSD		Eng Ger Fre	
			VCR OSD		Eng Ger Fre	
G-12	**Clock,Timer and Timer Back-up**	Calendar			1990/1/1 ~ 2081/12/31	
		Timer Events			8 Program/ 1 Month	
		One Touch Recording Max Time			SP:5Hours	LP:10 Hours
		OTPB Valid Time				No
		Timer Back-up (at Power Off Mode)			30	Min
G-13	**Display**	DISPLAY			Yes	
				DISPLAY type	LED Module (Green, "Rec" &Timer symbol = Red)	
				Clock/Counter,CH,Timer Rec,OTR, Play Rec,FF(Cue),Rew(Rev),Stop,ATR ,Eject		No
				VCR	Yes	
				DVD	Yes	
				CD	Yes	
				Clock	Yes (24h)	
				AM		No
				PM		No
				Counter VCR	Yes (hour:min)	
				DVD	Yes (hour:min)	
				CD	Yes (min:sec)	
				Counter Remain		No
				Play	Yes	
				Stop		No
				Rec	Yes	
				FF / Cue		No
				REW /Review		No
				Pause/Still	Yes	
				OTR		No
				T-Rec	Yes	
				Chapter		No
				TITLE		No
				TRACK	Yes	
				Repeat		No
				Hi-Fi		No
				SP		No
				LP		No
				SLP		No
				CH	Yes	
				RF Output CH	Yes	
				Auto Tuning	Yes	
				Eject	Yes	
				Tape In	Yes	
				Remocon Custom Code	Yes	

GENERAL SPECIFICATIONS [HR-XV1EU-C]

G-14	Remote Control	Unit		RC-FO
		Glow in Dark Remocon		Yes
		Format		JVC
		Custom Code		43,53(DVD,VCR), 03(TV)
		Power Source	Voltage(D.C)	3V
			UM size x pcs	UM-3 x 2 pcs
		Total Keys		50 Key
		Keys	Power	Yes
			VCR	Yes
			DVD	Yes
			1	Yes
			2	Yes
			3	Yes
			4	Yes
			5	Yes
			6	Yes
			7	Yes
			8	Yes
			9	Yes
			0/AV	Yes
			DVD MENU	Yes
			MEMORY	Yes
			RETURN	Yes
			OPEN/CLOSE	Yes
			CLOCK / COUNTER	Yes
			SUB TITLE/ATR	Yes
			ANGLE/COUNTER RESET	Yes
			ZERO RETURN	Yes
			PLAY MODE/SPEED	Yes
			ZOOM	Yes
			TITLE	Yes
			REPEAT A-B	Yes
			PROGRAM/G-CODE	Yes
			T-REC	Yes
			TV Vol.+	Yes
			TV Vol.-	Yes
			TV/VCR	Yes
			TV Input	Yes
			FF(Cue)/SEARCH+	Yes
			REW(Review)/SEARCH-	Yes
			PLAY	Yes
			STOP	Yes
			PAUSE/STILL	Yes
			REC/OTR	Yes
			SKIP+ / INDEX+	Yes
			SKIP- / INDEX-	Yes
			UP/CH+	Yes
			DOWN/CH-	Yes
			LEFT/ SET- / TRACKING-	Yes
			RIGHT/ SET+ / TRACKING+	Yes
			SELECT/ENTER	Yes
			SET UP MENU/ VCR MENU	Yes
			CLEAR/CANCEL	Yes
			DISPLAY/CALL	Yes
			AUDIO / AUDIO SELECT	Yes
			SLOW(Forward)	Yes
			CM SKIP(Skip search)	Yes
		Slide SW	TV / VCR&DVD Select	Yes
G-15	Features (DVD)	Auto Power Off		No
		Parental Lock		Yes
		Video CD Playback		Yes
		MP3 Playback		Yes
		Digital Out	Dolby Digital	Yes
			PCM	Yes
			DTS	Yes
			MPEG1,MPEG2	Yes
		Down Mix Out	(Dolby Digital, MPEG1,MPEG2)	Yes
		Self Diagnostic		No
		Spatializer (N-2-2)		Yes
		Screen Saver		Yes
		Frame Advance		Yes
		One Touch Replay (10 Sec reverse)		No

GENERAL SPECIFICATIONS [HR-XV1EU-C]

	Features (VCR)	Auto Head Cleaning	No
		Auto Tracking	Yes
		Index Search	Yes
		HQ (VHS Standard High Quality)	Yes
		Auto Power On, Auto Play, Auto Rewind, Auto Eject	Yes
		Auto Repeat	Yes
		Auto Power Off	No
		VIDEO PLUS+(SHOWVIEW,G-CODE)	Yes
		ATS	Yes
		Auto Set Up (CH Auto Set-Up/Auto Clock)	No
		PDC	Yes
		VPS	Yes
		Reverse Slow	No
		One Touch Playback	No
		Picture Control(Sharpness)	Yes
		Channel Lock	No
		Hotel Lock	No
		Anti Theft	No
		Audio Dubbing	No
		Remote Control Code 1/2	Yes
		BBE Audio	No
		Rec END Search	No
		SQPB(PAL SP MODE)	Yes
		CATV	Yes
		CM Skip(30sec x 6 Times)	Yes
G-16	**Accessories**	Owner's Manual	Yes
		Language	English/German/French/Dutch/Greek
		w/Guarantee Card	No
		Remote Control Unit	Yes
		Dew Cation Sheet	No
		Battery	Yes
		UM size x pcs	UM-3 x 2 pcs
		Tape Rewinder	No
		Safety Tip	No
		Toll Free Insert Sheet	No
		Quick Set-Up Sheet	No
		Information Sheet	No
		75 Ohm Coaxial Cable	Yes (0.9m)
		type	Single shield
		U/V Mixer	No
		DC Car Cord (Center+)	No
		Guarantee Card	Yes
		Warning Sheet	No
		Circuit Diagram	No
		Antenna Change Plug	No
		Service Facility List	No
		Important Safeguard	No
		Dew/AHC Caution Sheet	No
		AC Plug Adapter	No
		AC Cord	No
		AV Cord (2Pin-1Pin)	No
		Registration Card	No
		21pin Cable	No
		300 ohm to 75 ohm Antenna Adapter	No

GENERAL SPECIFICATIONS [HR-XV1EU-C]

G-17	**Interface**	Switch	Front	Power	Yes
				Play	Yes
				Eject (VCR)	Yes
				Stop	Yes
				Rec/OTR	Yes
				Open/Close (DVD)	Yes
				CH +	Yes
				CH -	Yes
				FF/ Search(>>)	Yes
				Rew/Search(<<)	Yes
				Still/Pause	No
				Shuttle(Search/REV/FWD)	No
				DVD/VCR	Yes
				Input Select	No
				Main Power SW	No
			Rear	Attenuator	No
				Video/RGB Selector	No
				RF Out(Slide SW)	No
				Main Power SW	No
		Volume		Phones Volume	No
				Mic Volume	No
				Echo Volume	No
				Rec/OTR	No
		Terminals	Front	Video In	RCA x1(Yellow)
				Audio In	RCA x 2(Stereo, White/Red)
			Rear	Video Output	No
				Audio Output	RCA x 2(Stereo, White/Red) Coaxial x 1 (Digital Audio,DVD Signal Only)
				Video Input	No
				Audio Input	No
				Optical Digital Audio Out (Option)	Yes
				Euro Scart	2SCART
				S-Video Output	Yes (DVD Signal Only)
				Ext Speaker	No
				VHF/UHF Antenna Input/Output	DIN Type
				AC Inlet	No
		Indicator	LED	Power	No
				Rec	No
				T-Rec	No
				TV/VCR	No
				DVD	Yes (GREEN)
				VCR	Yes (GREEN)
				Surround	No
				Level Meter	No
G-18	**Set Size**			Approx. W x D x H (mm)	430 x 310.5 x 99
G-19	**Weight**			Net (Approx.)	4.5 kg(9.9lbs)
				Gross (Approx.)	5.5 kg(12.1lbs)
G-20	**Carton**		Master Carton		No
				Content	--- Sets
				Material	--- / ---
				Dimensions W x D x H(mm)	---
				Description of Origin	---
			Gift Box		Yes
				Material	Single/Brown
				W/Color Phote Label	No
				Dimensions W x D x H(mm)	500 x 430 x 180
				Pulp Package	No
				Design	As Per BUYER 's
				Description of Origin	No
			Drop Test	Natural Dropping At	1 Corner / 3 Edges / 6 Surfaces
				Height (cm)	80 cm
			Container Stuffing		1,623 Sets/40' container
G-21	**Cabinet Material**			Cabinet Front	PS 94HB

JVC

VICTOR COMPANY OF JAPAN, LIMITED
VIDEO DIVISION

S40894

Printed in Japan

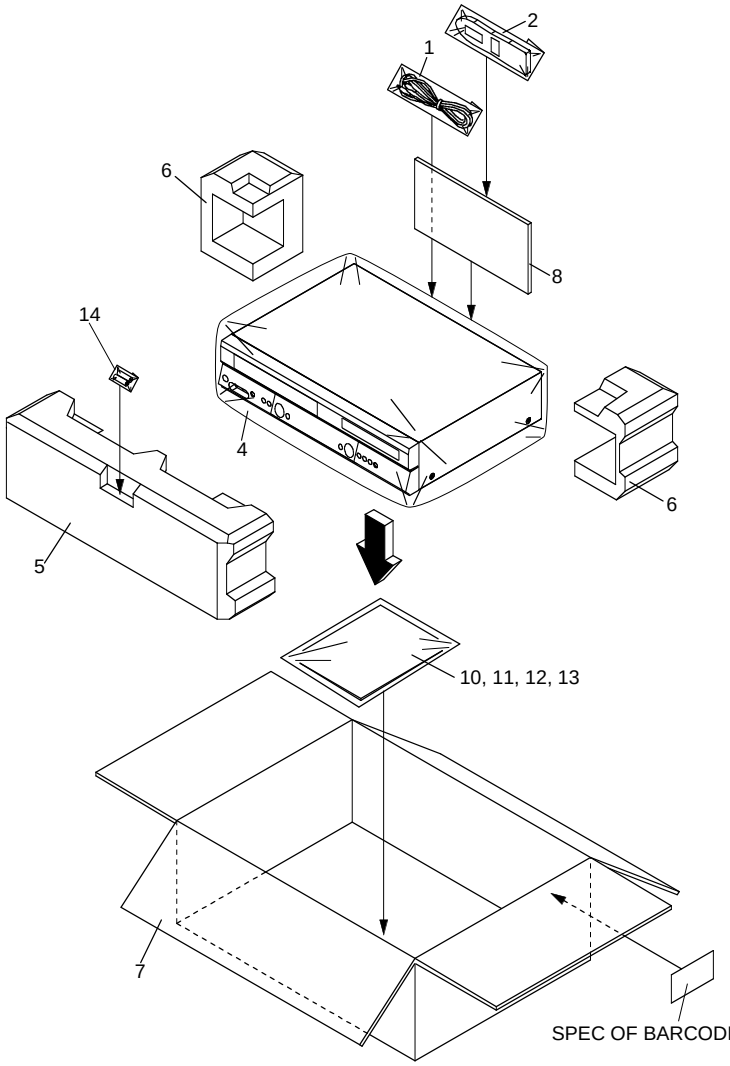
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

3.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



- **INSTRUCTIONS**
  - EN ..... ENGLISH
  - GE ..... GERMAN
  - FR ..... FRENCH
  - DU ..... DUTCH
  - SP ..... SPANISH
  - IT ..... ITALIAN
  - DA ..... DANISH
  - FI ..... FINNISH
  - SW ..... SWEDISH
  - NO ..... NORWEGIAN
  - RU ..... RUSSIAN
  - CZ ..... CZECH
  - PT ..... PORTUGUESE
  - HU ..... HUNGARIAN

HR-XV1EK	A
HR-XV1EU-C	B
HR-XV1EU-S	C
HR-XV1EU-Y	D

****

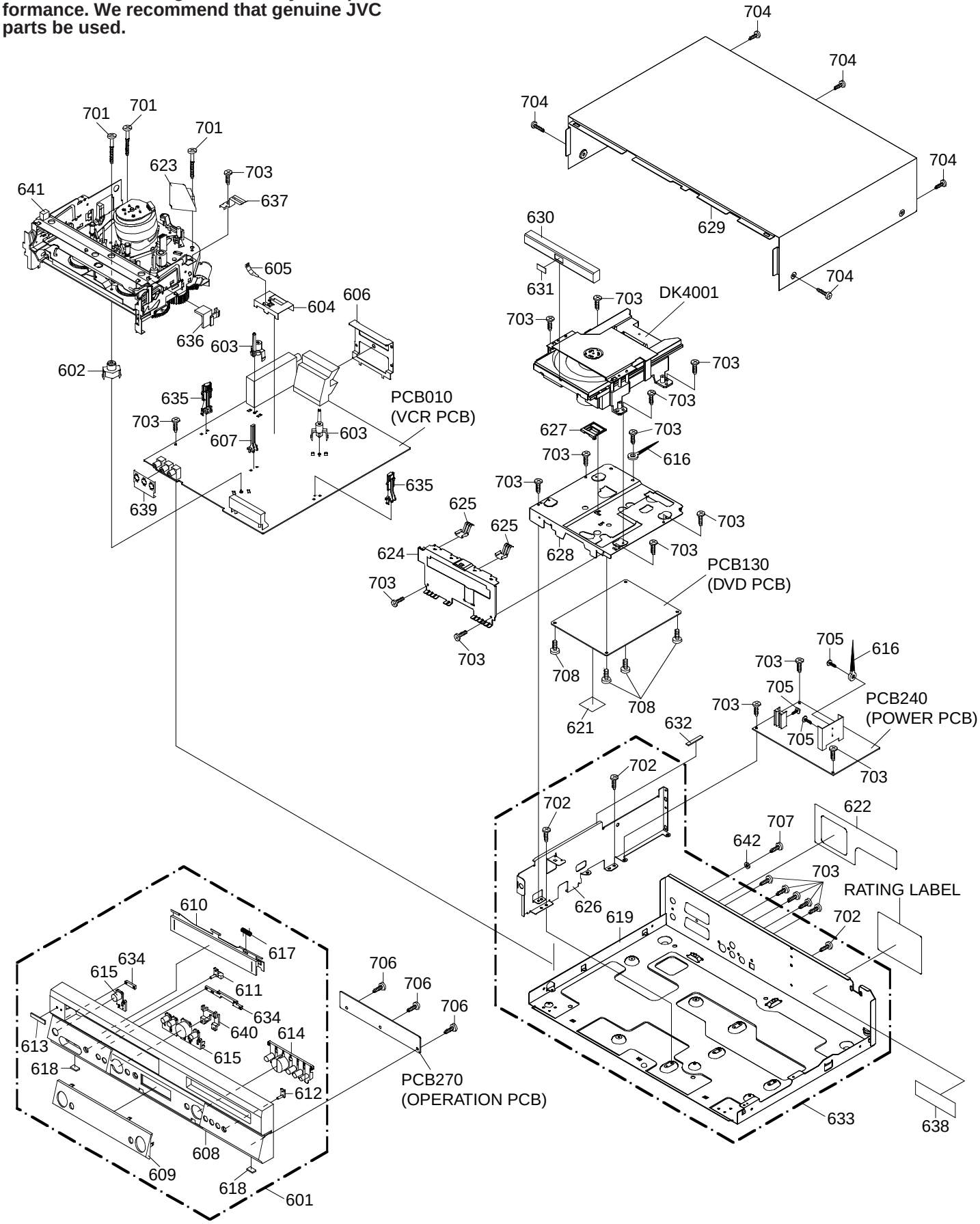
PACKING AND ACCESSORY ASSEMBLY <M1>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		1	X-06CDL02003	CABLE,PAL	CDL02003
		2	X-076D0F0010	REMOTE CONTROL	
		4	X-791UHA0014	GIFT SHEET,A	
			X-791WHA0100	GIFT SHEET,B,C,D	
		5	X-792UHAA026	PACKAGE,FRONT,A	
			X-792WHA0356	PACKAGE,FRONT,B,C,D	
		6	X-792UHAA030	PACKAGE,BACK,A	
			X-792WHA0358	PACKAGE,BACK,B,C,D	
		7	X-793UCDA995	GIFT BOX,A	
			X-793WCDB276	GIFT BOX,B,C,D	
		8	X-795UCA0021	PAD,DVD/VR,A	155x250
			X-795WCA0662	PAD,DVD/VR,B,C,D	
		10	X-JB5XD300	POLYBAG,INSTRUCTION(RED CAUTION)	
	⚠	11	X-J2A77501	INST.BOOK(EN),A	LPT0716-001A
	⚠		X-J2A73501	INST.BOOK(EN),B	LPT0715-001A
	⚠		X-J2A73510	INST.BOOK(GE),B,C,D	LPT0715-002A
	⚠		X-J2A73511	INST.BOOK(FR),B,C	LPT0715-003A
	⚠		X-J2A73551	INST.BOOK(DU),B	LPT0715-004A
	⚠		X-J2A73561	INST.BOOK(GR),B	LPT0715-012A
	⚠		X-J2A73601	INST.BOOK(IT),C	LPT0715-006A
	⚠		X-J2A73610	INST.BOOK(SP),C	LPT0715-005A
	⚠		X-J2A73611	INST.BOOK(PT),C	LPT0715-011A
	⚠		X-J2A77201	INST.BOOK(SW),D	LPT0715-009A
	⚠		X-J2A77210	INST.BOOK(NO),D	LPT0715-010A
	⚠		X-J2A77211	INST.BOOK(DA),D	LPT0715-007A
	⚠		X-J2A77251	INST.BOOK(FI),D	LPT0715-008A
		12	X-J2A77502	GURANTEE CARD,UK,A	
			X-J2A73502	WARRANTY CARD,B,C,D	
		13	X-J2A77512	GUARANTEE CARD,EURO,A	
		14	———	BATTERY,X2	

3.2 FINAL ASSEMBLY <M2>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.



HR-XV1EK	A	HR-XV1EU-S	C
HR-XV1EU-C	B	HR-XV1EU-Y	D

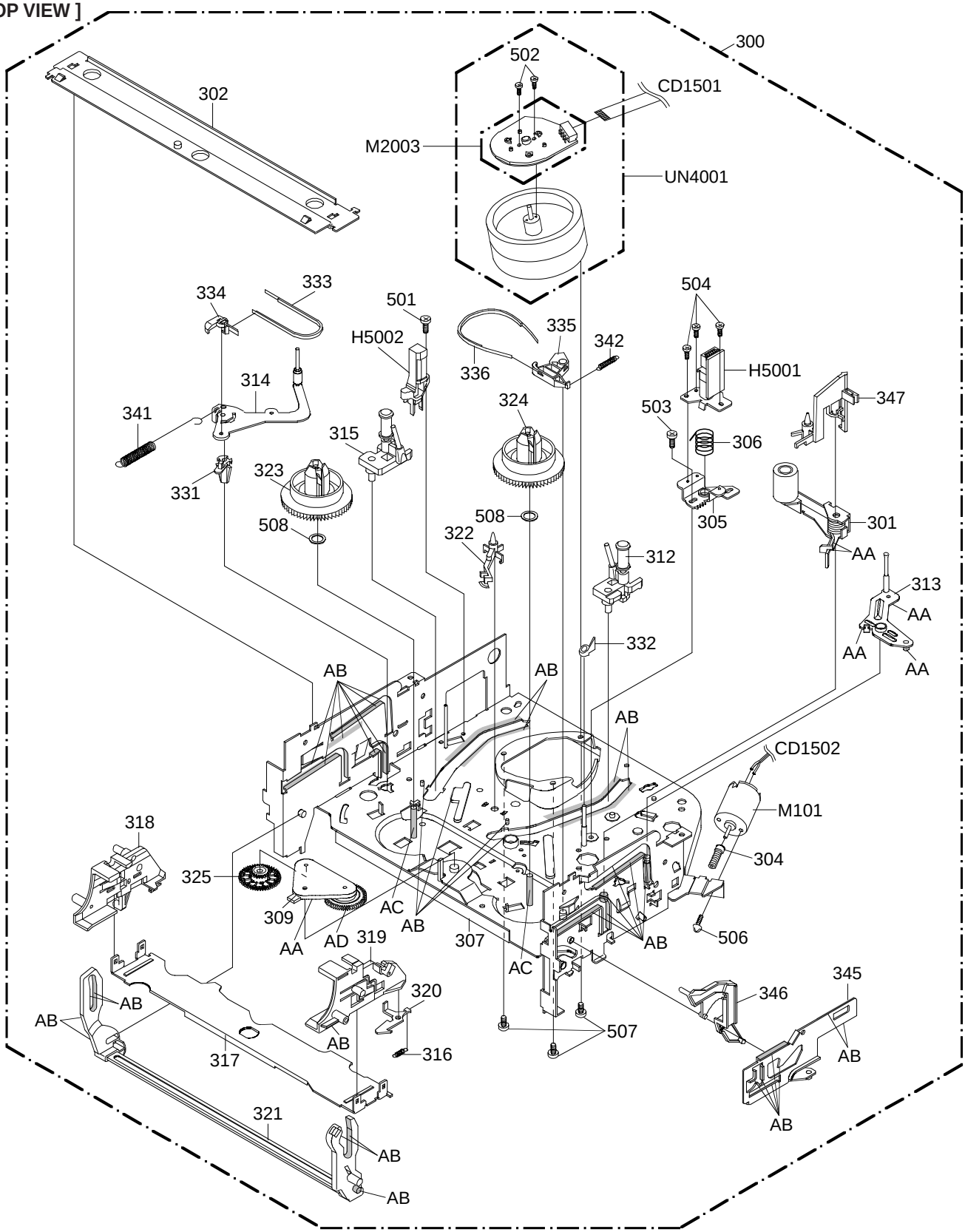
#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
**********					

FINAL ASSEMBLY <M2>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	⚠	601	X-A2A775D720B	CABINET,FRONT ASSY,A	
			X- A2A735B720	CABINET,FRONT ASSY,B,C,D	
		602	X-701WPA0686	HOLDER,DECK	
		603	X-701WPA0751	HOLDER,DECK	
		604	X-752WSA0230	SHIELD,CASE HEAD AMP	
		605	X-753WUAA006	SPRING,EARTH HEAD AMP	
		606	X-761WSA0090	SHIELD,21PIN	
		607	X-85OP700037	HOLDER,LED	
	⚠	608	X-701WPJB720	CABINET,FRONT,A	
			X-701WPJB706	CABINET,FRONT,B,C,D	
		609	X-711WPDA478	PLATE,DISPLAY	
		610	X-712WPJB422	FLAP	
		611	X-713WPA0191	GLASS,LED-VCR	
		612	X-713WPA0192	GLASS,LED-DVD	
		613	X-7235380009	BADGE,BRAND	
		614	X-735WPJA594	BUTTON,FRAME-DVD	
		615	X-735WPJA595	BUTTON,FRAME-VCR	
		616	X-8995034000	CORD CLIP UL CO.	
		617	X-743WKA0042	SPRING,FLAP	
		618	X-800WFA0051	CUSHION,LEG	
	⚠	619	X-702WSA0134	PLATE,BOTTOM	
		620	———	SHEET,RATING	
		621	X-7230007461	SHEET,IC	
		622	X-723000B927	SHEET,JACK	
		623	X-752WSA0275	COVER,AC HEAD	
		624	X-753WSA0151	SHIELD,FRONT-DVD	
		625	X-753WUA0060	SPRING,EARTH	
		626	X-761WSA0082	ANGLE,CENTER	
		627	X-761WPA0244	HOLDER,FFC	
		628	X-761WSA0089	ANGLE,DECK	
	⚠	629	X-702WSB0065	CABINET,TOP	
		630	X-712WPJB499	PLATE,TRAY-FRONT	
		631	X-7235630001	SHEET,DVD	
		632	X-800WFA0055	CUSHION	20x5xT1
	⚠	633	X-A2A775D730B	CABINET,BOTTOM ASSY	
		634	X-738WPA0034	BUTTON,HOLDER	
		635	X-85OP700038	HOLDER,END SENSOR	
		636	X-701WPA0781	HOLDER,TOP	
		637	X-753WUA0062	SPRING,EARTH-TOP	
		638	X-7260000332	SHEET,CAUTION	
		639	X-752WSA0280	SHIELD,3-PIN	
		640	X-738WPA0033	BUTTON,HOLDER2	
		641	X-800WFAA013	CUSHION,LEG	
		642	X-800WB00004	FIBER WASHER	7x3.2xT0.5
		701	X-8109130B94	SCREW,TAP TITE(B) R PAN	3x29
		702	X-8109230704	SCREW,TAP TITE(B) R BIND	3x7
		703	X-8109230804	SCREW,TAP TITE(B) BIND	3x8
		704	X-8109K30601	SCREW,TAP TITE(B) BIND(3D)	3x6
		705	X-8109I30A04	SCREW,TAP TITE(B) WH7	3x10
		706	X-8110226804	SCREW,TAP TITE(P) BIND	2.6x8
		707	X-8107230404	SCREW,TAP TITE(S) BIND	3x4
		708	X-8109I30804	SCREW,TAP TITE(B) WH7	3x8
		CD102	X-122F061502	CORD,VCR CP102 – A/C HEAD	
		CD651	X-122H052402	CORD,VCR CP653 – OPERATION CP681	
		CD2601	X-122H081006	CORD,DVD CP2601 – DVD DRIVE	
		CD2603	X-122H060806	CORD,DVD CP2603 – DVD DRIVE	
	⚠	CD501	X-120G639803	POWER CORD,A	
	⚠		X-120G659803	POWER CORD,B,C,D	
	⚠	DK4001	X-169J00017A	DECK CD	

3.3 MECHANISM ASSEMBLY <M4>

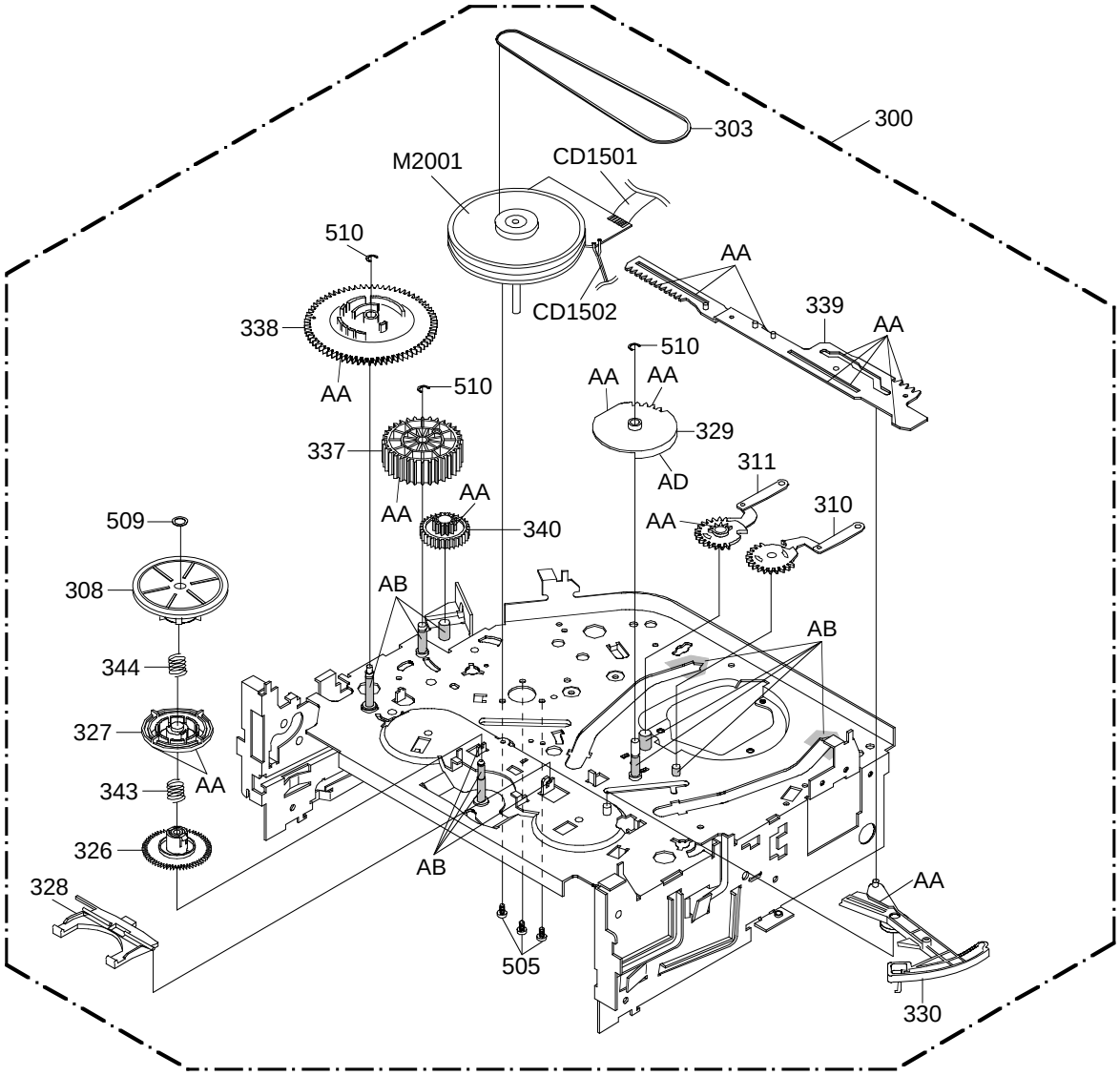
[TOP VIEW]



CLASS	PART NO.	MARK
GREASE	G-555G	AA
	MG-33	AB
	FG-84M	AC
	FL-721	AD

NOTE: Applying positions AA, AB, AC and AD for the grease are displayed for this section.
Check if the correct grease is applied for each position.

[BOTTOM VIEW]



CLASS	PART NO.	MARK
GREASE	G-555G	AA
	MG-33	AB
	FG-84M	AC
	FL-721	AD

NOTE: Applying positions AA, AB, AC and AD for the grease are displayed for this section.
Check if the correct grease is applied for each position.

HR-XV1EK	A	HR-XV1EU-S	C
HR-XV1EU-C	B	HR-XV1EU-Y	D

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
**********					

MECHANISM ASSEMBLY <M4>

		300	X-A2A775D420A	DECK ASSY	
		301	X-85OA400234	PINCH ROLLER BLOCK	
		302	X-85OP900746	BRACKET,TOP 3V	
		303	X-85OP200290	BELT,CAPSTAN (S)	
		304	X-85OP600581	WORM	
		305	X-85OP500083	BASE,AC HEAD	
		306	X-85OP800324	SPRING,AC HEAD	
		307	X-85OA000459	MAIN CHASSIS ASSY	
		308	X-85OA200089	CLUTCH ASSY	
		309	X-85OA200090	ARM IDLER ASSY	
		310	X-85OA300065	LOADING ARM S UNIT	
		311	X-85OA300066	LOADING ARM T UNIT	
		312	X-85OA400223	INCLINED BASE T UINT 3S	
		313	X-85OA400232	P5 ARM ASSY 2	
		314	X-85OA400235	TENSION ARM ASSY 2	
		315	X-85OA400231	INCLINED BASE S UNIT	
		316	X-85OP800358	SPRING,LOCKER	
		317	X-85OP900736	CASS,HOLDER	
		318	X-85OP900748	CASS,SIDE L	
		319	X-85OP900749	CASS,SIDE R	
		320	X-85OP900739	LOCKER,R	
		321	X-85OA900228	LINK UNIT	
		322	X-85OP000496	POST,CASS GUIDE	
		323	X-85OP200316	REEL,S (S)	
		324	X-85OP200317	REEL,T (S)	
		325	X-85OP200308	GEAR,IDLER	
		326	X-85OP200311	GEAR,CLUTCH	
		327	X-85OP200312	GEAR,COUPLING	
		328	X-85OP200313	LEVER,CLUTCH	
		329	X-85OP300194	GEAR,MAIN LOADING	
		330	X-85OP400490	LEVER,TENSION	
		331	X-85OP400492	HOLDER,TENSION	
		332	X-85OP400520	CAP.P4	
		333	X-85OP400539	BAND,TENSION	
		334	X-85OP400533	CONNECT,TENSION	
		335	X-85OP600573	ARM,BRAKE T	
		336	X-85OP600583	BAND,BRAKE T	
		337	X-85OP600577	CAM,PINCH ROLLER	
		338	X-85OP600578	CAM,MAIN	
		339	X-85OP600579	ROD,MAIN	
		340	X-85OP600582	GEAR,JOINT	
		341	X-85OP800322	SPRING,TENSION	
		342	X-85OP800360	SPRING,BRAKE T	
		343	X-85OP800355	SPRING,COUPLING	
		344	X-85OP800356	SPRING,RING	
		345	X-85OP900750	LEVER,LINK 2	
		346	X-85OP900744	LEVER,FLAP	
		347	X-85OP900745	CASS,OPENER	
		501	X-8107226804	SCREW,TAP TITE(S) BIND	2.6x8
		502	X-8109126604	SCREW,TAP TITE(B) PAN	2.6x6
		503	X-8107226404	SCREW,TAP TITE(S) BIND	2.6x4
		504	X-8102120604	SCREW,PAN	M2x6
		505	X-8109126604	SCREW,TAP TITE(B) PAN	2.6x6
		506	X-810A130404	SCREW/WASHER(A)	M3x4
		507	X-810A126504	SCREW/WASHER(A)	M2.6x5
		508	X-82Q264713N	POLYSLIDER WASHER	2.6x4.7xT0.13
		509	X-82P184505N	POLYSLIDER WASHER(CUT)	1.8x4.5xT0.5
		510	X-83ETW30000	E-RING	3.0
		CD1501	X-122H071603	CORD JUMPER	
		CD1502	X-122Y021902	CORD JUMPER	
		H5001	X-1523D91034	HEAD (AUDIO CONTROL)	
		H5002	X-1543D02013	HEAD (FULL ERASE)	
	⚠	M101	X-1596S98001	MOTOR (LOADING)	
	⚠	M2001	X-1510S98036	CAPSTAN DD UNIT	
	⚠	M2003	X-1589S11017	MICRO MOTOR	
	⚠	UN4001	X-A2A735B500	CYLINDER UNIT ASSY	

3.4 ELECTRICAL PARTS LIST

HR-XV1EK	A	HR-XV1EU-S	C
HR-XV1EU-C	B	HR-XV1EU-Y	D

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
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			POWER BOARD ASSEMBLY <01>		
		PCB240	X-A2A775D240B	PCB ASSY	
	⚠	R502	X-R3X181R82J	OMF RESISTOR	0.82Ω,1W
	⚠	R504	X-R3X181561J	OMF RESISTOR	560Ω,1W
		R505	QRE141J-474Y	RESISTOR	470KΩ,1/4W
		R506	X-R002T2564J	RESISTOR	560KΩ,1/2W
		R507	QRE141J-103Y	RESISTOR	10KΩ,1/4W
		R508	QRE141J-471Y	RESISTOR	470Ω,1/4W
		R509	QRE141J-103Y	RESISTOR	10KΩ,1/4W
		R510	X-R002T2471J	RESISTOR	470Ω,1/2W
	⚠	R512	X-R3X18A823J	OMF RESISTOR	82KΩ,2W
		R513	QRE141J-391Y	RESISTOR	390Ω,1/4W
	⚠	R516	X-R63581R22J	FUSE RESISTOR	0.22Ω,1W
	⚠	R517	QRE121J-391Y	RESISTOR	390Ω,1/2W
		R518	QRE141J-151Y	RESISTOR	150Ω,1/4W
		R519	QRE141J-102Y	RESISTOR	1KΩ,1/4W
		R520	X-R4X5T6332F	RESISTOR	3.3KΩ,1/6W
		R521	QRE141J-331	RESISTOR	330Ω,1/4W
		R522	X-R4X5T6332F	RESISTOR	3.3KΩ,1/6W
		R524	QRE141J-681X	RESISTOR	680Ω,1/4W
		R525	QRE141J-103Y	RESISTOR	10KΩ,1/4W
		R536	QRE141J-102Y	RESISTOR	1KΩ,1/4W
	⚠	C501	X-E5EZF3222M	E CAPACITOR	2200μF,25V
	⚠	C502	X-P2472B224M	CAPASITOR	0.22μF,275V
	⚠	C505	X-E5EZU2221M	E CAPACITOR	220μF,16V
		C508	X-P1M4T0103J	F CAPACITOR	0.01μF,50V
		C509	X-P1S3T0183J	F CAPACITOR	0.018μF,50V
		C510	X-E5EZT3471M	E CAPACITOR	470μF,25V
	⚠	C511	X-E62RFH101M	E CAPACITOR	100μF,400V
		C513	X-C0JTB06H2K	CAPACITOR	220pF,1KV
		C514	X-E5EZU1331M	E CAPACITOR	330μF,10V
		C515	X-C0JFE0514M	CAPACITOR	0.01μF,500V
	⚠	C516	QCZ9079-152X	CAPACITOR	0.0015μF,250V
		C517	X-E5EZT0102M	E CAPACITOR	1000μF,6.3V
	⚠	C518	X-E5EZ01222M	E CAPACITOR	2200μF,10V
		C519	X-E5EZ01222M	E CAPACITOR	2200μF,10V
		C520	QCFB1HZ-104Y	CAPACITOR	0.1μF,50V
	⚠	C522	X-E5EZU5100M	E CAPACITOR	10μF,50V
		C524	QCBB1HK-104Y	CAPACITOR	0.1μF,50V
		C525	X-C0PLRR7H2K	CAPACITOR	220pF,2KV
		C527	X-E5EZU2101M	E CAPACITOR	100μF,16V
		C528	X-E02LU2101M	E CAPACITOR	100μF,16V
	⚠	C529	X-E5EZT0102M	E CAPACITOR	1000μF,6.3V
		C530	QETN0JM-227Z	E CAPACITOR	220μF,6.3V
	⚠	D502	X-D2WTRM11C0	DIODE	RM11C-EIC
	⚠	D503	X-D2WTRM11C0	DIODE	RM11C-EIC
	⚠	D505	X-D2WTRM11C0	DIODE	RM11C-EIC
	⚠	D506	X-D2WTRM11C0	DIODE	RM11C-EIC
	⚠	D507	X-D2WXB290S0	DIODE	SB290S
		D509	X-D2WXGP10K0	FR DIODE	RGP10K-EIC
		D510	MTZJ22B-T2	ZENER	MTZJ22BT-77
	⚠	D512	X-D2LKB340L0	SCHOTTKY	SB340L-6737
	⚠	D515	X-D2LKB340L0	SCHOTTKY	SB340L-6737
	⚠	D518	X-D28TELS6N6	RECTIFIER	10ELS6N-TA1B2
	⚠	D522	X-D28TELS6N6	RECTIFIER	10ELS6N-TA1B2
		D523	MTZJ33B-T2	ZENER	
		D524	1SS133-T2	DIODE	
		D525	X-D2WXN40050	DIODE	1N4005-EIC
	⚠	D529	X-D2WXB290S0	DIODE	SB290S
		D530	X-D28TELS6N6	RECTIFIER	10ELS6N-TA1B2
		D531	MTZ18B	ZENER	
	⚠	IC503	X-0002E00610	PHOTO COUPLER	LTV-817M-VB
	⚠	IC501	X-I1KJ9A4310	IC	KIA431
	⚠	IC502	X-I1KA97809A	IC	KIA7809API
	⚠	Q501	X-T410K26470	FET	2SK2647-01MR
	⚠	Q502	X-TCAT032034	TRANSISTOR	KTC3203_Y-AT
	⚠	Q504	X-TAAT01241Y	TRANSISTOR	KTA1241_Y-AT
	⚠	Q505	X-TCAT03209Y	TRANSISTOR	KTC3209_Y-AT
		Q506	X-TNATA03002	TRANSISTOR	KRC101MAT
		B501	X-024HT03563	CORE,BEADS	
		B503	X-024HT03564	CORE,BEADS	
	⚠	L501	X-029T000083	COIL,LINE FILTER	
	⚠	L503	X-02167E220K	COIL	22μH
		L505	QQL29BJ-220Z	COIL	22μH
		L506	X-02167E220K	COIL	22μH
		L507	X-02167E220K	COIL	22μH
	⚠	T501	X-0481290944	TRANSFORMER,SWITCHING	
		CP501	X-069S320419	CONNECTOR,PCB SIDE	
		CP503	X-069S260629	CONNECTOR PCB SIDE	6P
		CP502	X-067U014019	WIREHOLDER	
	⚠	F501	X-080NT04003	FUSE	T4.0A,AC250V
		FH501	X-06710T0006	FUSE HOLDER	
		FH502	X-06710T0006	FUSE HOLDER	
		CD502	X-WML6018038	FLAT CABLE	
		EL001	X-124120301A	EYE LET	
		EL002	X-124116281A	EYE LET	
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			VCR BOARD ASSEMBLY <03>		
		PCB010	X-A2A775D010B	PCB ASSY,A	
			X-A2A735B010	PCB ASSY,B,D	
			X-A2A736B010	PCB ASSY,C	
		R101	NRSA02J-222X	MG RESISTOR	2.2KΩ,1/10W
		R105	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
		R106	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R107	NRSA02J-473X	MG RESISTOR	47KΩ,1/10W
		R109	NRSA02J-562X	MG RESISTOR	5.6KΩ,1/10W
		R110	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
		R111	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
		R112	QRE141J-183X	RESISTOR	18KΩ,1/4W
		R113	NRSA02J-274X	MG RESISTOR	270KΩ,1/10W
		R114	NRSA02J-822X	MG RESISTOR	8.2KΩ,1/10W
		R115	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R116	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
		R117	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R118	NRSA02J-273X	MG RESISTOR	27KΩ,1/10W
		R119	NRSA02J-223X	MG RESISTOR	22KΩ,1/10W
		R120	NRSA02J-222X	MG RESISTOR	2.2KΩ,1/10W
		R121	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R122	NRSA02J-682X	MG RESISTOR	6.8KΩ,1/10W
		R123	NRSA02J-152X	MG RESISTOR	1.5KΩ,1/10W
		R125	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
		R126	NRSA02J-562X	MG RESISTOR	5.6KΩ,1/10W
		R127	QRE141J-225X	RESISTOR	2.2MΩ,1/4W
		R132	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W

HR-XV1EK	A	HR-XV1EU-S	C
HR-XV1EU-C	B	HR-XV1EU-Y	D

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R134	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R135	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R144	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
R145	QRE141J-100Y	RESISTOR	10Ω,1/4W
R146	NRSA02J-222X	MG RESISTOR	2.2KΩ,1/10W
R148	NRSA02J-182X	MG RESISTOR	1.8KΩ,1/10W
R301	QRE141J-102Y	RESISTOR	1KΩ,1/4W,B,C,D
R302	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R303	QRE141J-102Y	RESISTOR	1KΩ,1/4W
R304	NRSA02J-104X	MG RESISTOR	100KΩ,1/10W
R305	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
R651	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
R652	NRSA02J-101X	MG RESISTOR	100Ω,1/4W
R654	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
R655	NRSA02J-272X	MG RESISTOR	2.7KΩ,1/10W
R656	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R657	NRSA02J-182X	MG RESISTOR	1.8KΩ,1/10W
R658	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
R659	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R660	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R661	NRSA02J-152X	MG RESISTOR	1.5KΩ,1/10W
R662	QRE141J-821Y	RESISTOR	820Ω,1/4W
R663	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R664	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R665	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R666	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R667	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R668	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R669	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R670	QRE141J-821Y	RESISTOR	820Ω,1/4W
R674	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R675	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R678	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
R701	NRSA02J-184X	MG RESISTOR	180KΩ,1/10W
R702	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R705	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R706	NRSA02J-333X	MG RESISTOR	33KΩ,1/10W
R707	NRSA02J-272X	MG RESISTOR	2.7KΩ,1/10W
R708	X-R4X5T6393F	OM RESISTOR	39KΩ,1/6W
R709	NRSA02J-272X	MG RESISTOR	2.7KΩ,1/10W
R710	NRSA02J-473X	MG RESISTOR	47KΩ,1/10W
R711	NRSA02J-333X	MG RESISTOR	33KΩ,1/10W
R712	NRSA02J-473X	MG RESISTOR	47KΩ,1/10W
R713	NRSA02J-184X	MG RESISTOR	180KΩ,1/10W
R714	NRSA02J-473X	MG RESISTOR	47KΩ,1/10W
R715	NRSA02J-473X	MG RESISTOR	47KΩ,1/10W
R716	NRSA02J-473X	MG RESISTOR	47KΩ,1/10W
R717	NRSA02J-473X	MG RESISTOR	47KΩ,1/10W
R718	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R719	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R720	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R721	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R812	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R814	NRSA02J-822X	MG RESISTOR	8.2KΩ,1/10W
R815	NRSA02J-393X	MG RESISTOR	39KΩ,1/10W
R816	NRSA02J-393X	MG RESISTOR	39KΩ,1/10W
R1703	QRE141J-103Y	RESISTOR	10KΩ,1/4W
R1706	QRE141J-392Y	RESISTOR	3.9KΩ,1/4W
R1707	NRSA02J-222X	MG RESISTOR	2.2KΩ,1/10W
R1708	QRE121J-181Y	RESISTOR	180Ω,1/2W
R1709	QRE141J-391Y	RESISTOR	390Ω,1/4W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R1711	NRSA02J-101X	MG RESISTOR	100Ω,1/4W
R1712	QRE141J-221Y	RESISTOR	220Ω,1/4W
R1713	QRE141J-103Y	RESISTOR	10KΩ,1/4W
R1714	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R1715	NRSA02F-821X	MG RESISTOR	820Ω,1/10W
R1716	NRSA02F-122X	MG RESISTOR	1.2KΩ,1/10W
R1717	QRE141J-223Y	RESISTOR	22KΩ,1/4W
R1720	QRE141J-561Y	RESISTOR	560Ω,1/4W
R1721	QRE141J-102Y	RESISTOR	1KΩ,1/4W
R1722	QRE121J-222Y	RESISTOR	2.2KΩ,1/2W
R3001	NRSA02J-334X	MG RESISTOR	330KΩ,1/10W
R3003	NRSA02J-224X	MG RESISTOR	220KΩ,1/10W
R3004	QRE141J-271Y	RESISTOR	270Ω,1/4W
R3005	QRE141J-473Y	RESISTOR	47KΩ,1/4W
R3006	QRE141J-332Y	RESISTOR	3.3KΩ,1/4W
R3007	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R3008	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3009	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R3010	NRSA02J-106X	MG RESISTOR	10MΩ,1/10W
R3011	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
R3012	NRSA02J-333X	MG RESISTOR	33KΩ,1/10W
R3013	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R3014	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3015	NRSA02J-273X	MG RESISTOR	27KΩ,1/10W
R3016	NRSA02J-333X	MG RESISTOR	33KΩ,1/10W
R3017	QRE141J-473Y	RESISTOR	47KΩ,1/4W
R3018	QRE141J-121Y	RESISTOR	120Ω,1/4W
R3019	NRSA02J-273X	MG RESISTOR	27KΩ,1/10W
R3020	QRE141J-473Y	RESISTOR	47KΩ,1/4W
R3021	NRSA02J-183X	MG RESISTOR	18KΩ,1/10W
R3022	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
R3024	QRE141J-102Y	RESISTOR	1KΩ,1/4W
R3025	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
R3026	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
R3028	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3029	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R3030	NRSA02J-332X	MG RESISTOR	3.3KΩ,1/10W
R3031	QRE141J-562X	RESISTOR	5.6KΩ,1/4W
R3032	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
R3033	NRSA02J-473X	MG RESISTOR	47KΩ,1/10W
R3034	NRSA02J-223X	MG RESISTOR	22KΩ,1/10W
R3035	NRSA02J-333X	MG RESISTOR	33KΩ,1/10W
R3036	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
R3037	NRSA02J-223X	MG RESISTOR	22KΩ,1/10W
R3038	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
R3039	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R3040	QRE141J-183X	RESISTOR	18KΩ,1/4W
R3041	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
R3043	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R3044	QRE141J-102Y	RESISTOR	1KΩ,1/4W
R3045	QRE141J-102Y	RESISTOR	1KΩ,1/4W
R3046	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R3047	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R3048	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R3049	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R3050	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
R3051	NRSA02J-473X	MG RESISTOR	47KΩ,1/10W
R3052	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
R3054	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R3055	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R4502	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W

HR-XV1EK	A	HR-XV1EU-S	C
HR-XV1EU-C	B	HR-XV1EU-Y	D

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R4503	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R4505	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
R4508	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R4509	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R4510	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R4511	NRSA02J-272X	MG RESISTOR	2.7KΩ,1/10W
R4512	NRSA02J-562X	MG RESISTOR	5.6KΩ,1/10W
R4513	QRE141J-471Y	RESISTOR	470Ω,1/4W
R4514	QRE141J-100Y	RESISTOR	10Ω,1/4W
R8001	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
R8002	NRSA02J-680X	MG RESISTOR	68Ω,1/10W
R8003	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
R8004	QRE141J-182Y	RESISTOR	1.8KΩ,1/4W
R8005	NRSA02J-121X	MG RESISTOR	120Ω,1/10W
R8006	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R8007	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
R8009	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R8010	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R8011	NRSA02J-182X	MG RESISTOR,B,C,D	1.8KΩ,1/10W
R8013	NRSA02J-150X	MG RESISTOR	15Ω,1/10W
R8015	NRSA02J-2R2X	MG RESISTOR	2.2Ω,1/10W
R8017	NRSA02J-2R2X	MG RESISTOR	2.2Ω,1/10W
R8018	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R8019	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R8020	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
R8021	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R8022	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R8023	NRSA02J-2R2X	MG RESISTOR	2.2Ω,1/10W
R8024	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
R8025	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R8026	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R8027	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R8028	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R8029	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R8030	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
R8031	QRE141J-103Y	RESISTOR	10KΩ,1/4W
R8032	NRSA02J-2R2X	MG RESISTOR	2.2Ω,1/10W
R8033	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R8034	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R8035	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
R8036	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R8037	NRSA02J-392X	MG RESISTOR	3.9KΩ,1/10W
R8038	QRE141J-750X	RESISTOR	75Ω,1/4W
R8039	NRSA02J-223X	MG RESISTOR,B,C,D	22KΩ,1/10W
R8040	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R8041	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
R8042	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
R8043	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
R8044	NRSA02J-104X	MG RESISTOR	100KΩ,1/10W
R8045	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R8046	NRSA02J-183X	MG RESISTOR	18KΩ,1/10W
R8047	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
R8048	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
R8049	X-R002T4104J	RESISTOR	100KΩ,1/4W
R8050	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
R8051	NRSA02J-104X	MG RESISTOR	100KΩ,1/10W
R8052	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
R8053	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R8054	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R8055	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R8056	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R8057	NRSA02J-183X	MG RESISTOR	18KΩ,1/10W
R8058	NRSA02J-123X	MG RESISTOR	12KΩ,1/10W
R8059	NRSA02J-183X	MG RESISTOR	18KΩ,1/10W
R8060	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
R8061	NRSA02J-123X	MG RESISTOR	12KΩ,1/10W
R8062	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
R8063	X-R655U4100J	F RESISTOR	10Ω,1/4W
R8067	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
R8068	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R8069	QRE141J-102Y	RESISTOR,B,C,D	1KΩ,1/4W
R8070	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
R8071	NRSA02J-472X	MG RESISTOR,B,C,D	4.7KΩ,1/10W
R8074	QRE141J-103Y	RESISTOR	10KΩ,1/4W
R8075	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R8076	QRE141J-102Y	RESISTOR	1KΩ,1/4W
R8077	QRE141J-102Y	RESISTOR	1KΩ,1/4W
R8082	NRSA02J-332X	MG RESISTOR	3.3KΩ,1/10W
C106	QEKJ1AM-336Z	E CAPACITOR	33μF,10V
C107	X-CS0RB0216K	CAPACITOR	1μF,16V
C108	NCB21HK-103X	CAPACITOR	0.01μF,50V
C109	NCB21HK-472X	CAPACITOR	0.0047μF,50V
C110	NDC21HJ-470X	CAPACITOR,B,C,D	47pF,50V
C111	NCB21HK-103X	CAPACITOR	0.01μF,50V
C113	X-E02LU1221M	E CAPACITOR	220μF,10V
C115	X-P232T1223J	CAPACITOR,A	0.022μF,100V
	X-P611T1223J	CAPACITOR,B,C,D	0.022μF,100V
C116	X-CS0KB04H2K	CAPACITOR,A	220pF,50V
	X-CS0RB04H2K	CAPACITOR,B,C,D	220pF,50V
C117	QEKJ1CM-106Z	E CAPACITOR	10μF,16V
C118	NCB21HK-102X	CAPACITOR	0.001μF,50V
C119	NCB21HK-102X	CAPACITOR	0.001μF,50V
C120	NCF21HZ-104X	CAPACITOR	0.1μF,50V
C121	NCF21HZ-103X	CAPACITOR	0.01μF,50V
C122	NCF21HZ-103X	CAPACITOR	0.01μF,50V
C123	NCF21HZ-103X	CAPACITOR	0.01μF,50V
C124	NCF21HZ-103X	CAPACITOR	0.01μF,50V
C125	NCB21HK-333X	CAPACITOR	0.033μF,50V
C126	QEKJ0JM-476Z	E CAPACITOR	47μF,6.3V
C127	NCF21HZ-104X	CAPACITOR	0.1μF,50V
C128	QEKJ0JM-476Z	E CAPACITOR	47μF,6.3V
C129	NCF21HZ-103X	CAPACITOR	0.01μF,50V
C130	X-E50HU53R3M	E CAPACITOR	3.3μF,50V
C131	X-CS0RB0216K	CAPACITOR	1μF,16V
C132	NCF21HZ-103X	CAPACITOR	0.01μF,50V
C133	NCF21HZ-103X	CAPACITOR	0.01μF,50V
C134	NCF21HZ-103X	CAPACITOR	0.01μF,50V
C135	NCF21HZ-103X	CAPACITOR	0.01μF,50V
C136	NCB21HK-103X	CAPACITOR	0.01μF,50V
C137	QEKJ1CM-106Z	E CAPACITOR	10μF,16V
C139	NCF21HZ-103X	CAPACITOR	0.01μF,50V
C140	NCB21HK-102X	CAPACITOR	0.001μF,50V
C141	X-CS0RB0216K	CAPACITOR	1μF,16V
C142	QEKJ1HM-475Z	E CAPACITOR	4.7μF,50V
C143	QEKJ1HM-225Z	E CAPACITOR	2.2μF,50V
C144	NDC21HJ-471X	CAPACITOR	470pF,50V
C145	NDC21HJ-471X	CAPACITOR	470pF,50V
C146	NCB21EK-104X	CAPACITOR	0.1μF,25V
C147	QEKJ1CM-106Z	E CAPACITOR	10μF,16V
C148	X-CS0RB02Q5K	CAPACITOR	0.47μF,16V
C149	NCB21EK-104X	CAPACITOR	0.1μF,25V
C150	NCF21HZ-104X	CAPACITOR	0.1μF,50V

HR-XV1EK	A	HR-XV1EU-S	C
HR-XV1EU-C	B	HR-XV1EU-Y	D

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C151	X-CS0RB04G4K	CAPACITOR	0.018µF,50V
		C152	NCB21HK-223X	CAPACITOR	0.022µF,50V
		C153	QEKJ0JM-226Z	E CAPACITOR	22µF,6.3V
		C154	QEKJ1HM-475Z	E CAPACITOR	4.7µF,50V
		C155	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
		C156	NDC21HJ-151X	CAPACITOR	150pF,50V
		C157	NCF21HZ-104X	CAPACITOR	0.1µF,50V
		C158	X-CS0KCH450C	CAPACITOR,A	5pF,50V
			NDC21HJ-5R0X	CAPACITOR,B,C,D	5pF,50V
		C159	NCB21HK-223X	CAPACITOR	0.022µF,50V
		C161	QEKJ0JM-476Z	E CAPACITOR	47µF,6.3V
		C162	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C163	QEKJ1HM-475Z	E CAPACITOR	4.7µF,50V
		C164	NDC21HJ-360X	CAPACITOR	36pF,50V
		C165	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C166	NCF21HZ-104X	CAPACITOR	0.1µF,50V
		C167	QEKJ0JM-476Z	E CAPACITOR	47µF,6.3V
		C168	NCF21HZ-104X	CAPACITOR	0.1µF,50V
		C169	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C170	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C171	NCF21HZ-104X	CAPACITOR	0.1µF,50V
		C172	X-CS0RB0216K	CAPACITOR	1µF,16V
		C173	NCF21HZ-104X	CAPACITOR	0.1µF,50V
		C174	X-E50HU53R3M	E CAPACITOR	3.3µF,50V
		C175	NDC21HJ-470X	CAPACITOR	47pF,50V
		C177	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C179	QEKJ1HM-225Z	E CAPACITOR	2.2µF,50V
		C181	X-CS0RB0216K	CAPACITOR	1µF,16V
		C183	NCF21HZ-103X	CAPACITOR	0.01µF,50V
		C184	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
		C186	NCF21HZ-103X	CAPACITOR	0.01µF,50V
		C187	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
		C188	NDC21HJ-910X	CAPACITOR	91pF,50V
		C189	NDC21HJ-821X	CAPACITOR	820pF,50V
		C190	NDC21HJ-151X	CAPACITOR	150pF,50V
		C191	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
		C192	NDC21HJ-470X	CAPACITOR	47pF,50V
		C193	QEKJ0JM-476Z	E CAPACITOR	47µF,6.3V
		C194	NCF21HZ-103X	CAPACITOR	0.01µF,50V
		C201	X-CS0KF0214Z	CAPACITOR,A	0.01µF,16V
			NCB21HK-103X	CAPACITOR,B,C,D	0.01µF,50V
		C203	QEKJ0JM-476Z	E CAPACITOR	47µF,6.3V
		C204	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C205	X-CS0KF0214Z	CAPACITOR,A	0.01µF,16V
			NCB21HK-103X	CAPACITOR,B,C,D	0.01µF,50V
		C301	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
		C302	QETN0JM-107Z	E CAPACITOR	100µF,6.3V
		C303	NDC21HJ-101X	CAPACITOR	100pF,50V
		C304	QETN0JM-107Z	E CAPACITOR	100µF,6.3V
		C305	X-CS0RCH4H2J	CAPACITOR	220pF,50V
		C306	NCB21HK-223X	CAPACITOR	0.022µF,50V
		C307	NDC21HJ-101X	CAPACITOR	100pF,50V
		C308	X-E02LT0102M	E CAPACITOR	1000µF,6.3V
		C310	NCF21HZ-103X	CAPACITOR	0.01µF,50V
		C655	QETN0JM-107Z	E CAPACITOR	100µF,6.3V
		C701	NCF21HZ-104X	CAPACITOR	0.1µF,50V
		C702	NCF21HZ-104X	CAPACITOR	0.1µF,50V
		C703	QEKJ0JM-476Z	E CAPACITOR	47µF,6.3V
		C705	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C708	QETN1CM-227Z	E CAPACITOR	220µF,16V
		C709	NCF21HZ-104X	CAPACITOR	0.1µF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C710	NCF21HZ-104X	CAPACITOR	0.1µF,50V
		C711	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
		C712	X-CS0RB04U3K	CAPASITOR	0.0068µF,50V
		C713	QEKJ0JM-476Z	E CAPACITOR	47µF,6.3V
		C714	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
		C715	QEKJ1HM-225Z	E CAPACITOR	2.2µF,50V
		C716	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
		C717	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
		C718	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
		C719	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
		C720	QEKJ0JM-476Z	E CAPACITOR	47µF,6.3V
		C721	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
		C722	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
		C723	X-CS0RB04U3K	CAPASITOR	0.0068µF,50V
		C724	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
		C725	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
		C726	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
		C727	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
		C728	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
		C729	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
		C730	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
		C731	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
		C801	QEKJ0JM-476Z	E CAPACITOR	47µF,6.3V
		C802	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
		C804	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C805	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C807	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C808	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C809	QEKJ0JM-476Z	E CAPACITOR	47µF,6.3V
		C810	QEKJ1HM-225Z	E CAPACITOR	2.2µF,50V
		C812	QEKJ1HM-225Z	E CAPACITOR	2.2µF,50V
		C815	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C816	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C820	NCF21HZ-104X	CAPACITOR	0.1µF,50V
		C821	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
		C822	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C824	NDC21HJ-470X	CAPACITOR	47pF,50V
		C825	QCSB1HJ-470Y	CAPACITOR	47pF,50V
		C828	X-CS0KCH4H1J	CAPACITOR,A	22pF,50V
			NDC21HJ-220X	CAPACITOR,B,C,D	22pF,50V
		C832	X-CS0KCH4H1J	CAPACITOR,A	22pF,50V
			NDC21HJ-220X	CAPACITOR,B,C,D	22pF,50V
		C833	NCB21HK-333X	CAPACITOR	0.033µF,50V
		C835	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C836	NCB21CK-334X	CAPACITOR	0.33µF,16V
		C837	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C1703	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
		C1707	QETN1VM-226Z	E CAPACITOR	22µF,35V
		C1708	QETN1HM-105Z	E CAPACITOR	1µF,50V
		C1710	QETN0JM-477Z	E CAPACITOR	470µF,6.3V
		C1711	QETN0JM-477Z	E CAPACITOR	470µF,6.3V
		C1712	QETN1HM-106Z	E CAPACITOR	10µF,50V
		C1713	QETN0JM-107Z	E CAPACITOR	100µF,6.3V
		C1714	QETN1CM-477Z	E CAPACITOR	470µF,16V
		C3002	QETN1VM-337Z	E CAPACITOR	330µF,35V
		C3007	X-CS0KCH4G1J	CAPACITOR,A	18pF,50V
			NDC21HJ-180X	CAPACITOR,B,C,D	18pF,50V
		C3008	X-CS0KCH4G1J	CAPACITOR,A	18pF,50V
			NDC21HJ-180X	CAPACITOR,B,C,D	18pF,50V
		C3009	X-CS0KCH4G1J	CAPACITOR,A	18pF,50V
			NDC21HJ-180X	CAPACITOR,B,C,D	18pF,50V

HR-XV1EK	A	HR-XV1EU-S	C
HR-XV1EU-C	B	HR-XV1EU-Y	D

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C3010	X-CS0KCH4G1J	CAPACITOR,A	18pF,50V
	NDC21HJ-180X	CAPACITOR,B,C,D	18pF,50V
C3011	NCF21HZ-104X	CAPACITOR	0.1µF,50V
C3015	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
C3016	NCF21EZ-474X	CAPACITOR	0.47µF,25V
C3018	NCB21EK-104X	CAPACITOR	0.1µF,25V
C3019	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
C3020	QEKJ1HM-475Z	E CAPACITOR	4.7µF,50V
C3021	NCB21HK-392X	CAPACITOR	0.0039µF,50V
C3022	X-E5JXTP473Z	E CAPACITOR	0.047µF,5.5V
C3023	NCB21HK-392X	CAPACITOR	0.0039µF,50V
C3024	NCF21HZ-104X	CAPACITOR	0.1µF,50V
C3025	X-CS0RB04U3K	CAPASITOR	0.0068µF,50V
C3026	NCB21HK-332X	CAPACITOR	0.0033µF,50V
C3027	X-CS0RCH4E2J	CAPACITOR	150pF,50V
C3028	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
C3029	NCF21HZ-104X	CAPACITOR	0.1µF,50V
C3030	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
C3031	NCF21HZ-104X	CAPACITOR	0.1µF,50V
C3032	QEKJ0JM-476Z	E CAPACITOR	47µF,6.3V
C3033	QEKJ0JM-476Z	E CAPACITOR	47µF,6.3V
C3034	NCF21HZ-104X	CAPACITOR	0.1µF,50V
C3036	NCB21HK-222X	CAPACITOR	0.0022µF,50V
C3037	NCB21HK-102X	CAPACITOR	0.001µF,50V
C3038	QCFB1HZ-104Y	CAPACITOR	0.1µF,50V
C3039	NCB21EK-104X	CAPACITOR	0.1µF,25V
C3040	NCB21HK-103X	CAPACITOR	0.01µF,50V
C4501	X-CS0KY0313M	CAPACITOR,A	0.001µF,25V
	NCB21HK-102X	CAPACITOR,B,C,D	0.001µF,50V
C4503	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
C4504	X-CS0RCH4L1J	CAPACITOR	33pF,50V
C4505	X-CS0KCH411D	CAPACITOR,A	10pF,50V
	NDC21HJ-100X	CAPACITOR,B,C,D	10pF,50V
C4506	X-CS0KCH4H1J	CAPACITOR,A	22pF,50V
	NDC21HJ-220X	CAPACITOR,B,C,D	22pF,50V
C4507	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
C4508	X-CS0KCH4H1J	CAPACITOR,A	22pF,50V
	NDC21HJ-220X	CAPACITOR,B,C,D	22pF,50V
C4511	QEKJ0JM-476Z	E CAPACITOR	47µF,6.3V
C4512	NCF21HZ-104X	CAPACITOR	0.1µF,50V
C4514	NCF21HZ-104X	CAPACITOR	0.1µF,50V
C4515	QEKJ0JM-476Z	E CAPACITOR	47µF,6.3V
C4516	X-E02LU54R7M	E CAPACITOR	4.7µF,50V
C4517	X-CS0KY0313M	CAPACITOR,A	0.001µF,25V
	NCB21HK-102X	CAPACITOR,B,C,D	0.001µF,50V
C8002	NCF21HZ-104X	CAPACITOR	0.1µF,50V
C8003	NCF21HZ-104X	CAPACITOR	0.1µF,50V
C8004	QEKJ0JM-476Z	E CAPACITOR	47µF,6.3V
C8005	NDC21HJ-101X	CAPACITOR	100pF,50V
C8006	X-CS0RCH4H2J	CAPACITOR	220pF,50V
C8007	NCB21HK-103X	CAPACITOR	0.01µF,50V
C8008	X-E02LU0331M	E CAPACITOR	330µF,6.3V
C8009	NCB21EK-104X	CAPACITOR	0.1µF,25V
C8010	NCF21HZ-104X	CAPACITOR	0.1µF,50V
C8011	NCB21HK-103X	CAPACITOR	0.01µF,50V
C8012	NCB21HK-103X	CAPACITOR	0.01µF,50V
C8013	X-CS0RB0216K	CAPACITOR	1µF,16V
C8014	QETN1CM-477Z	E CAPACITOR	470µF,16V
C8015	X-CS0RB0216K	CAPACITOR	1µF,16V
C8016	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
C8017	QEKJ1HM-105Z	E CAPACITOR	1µF,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C8018	NCB21HK-223X	CAPACITOR	0.022µF,50V
C8019	NCB21HK-103X	CAPACITOR	0.01µF,50V
C8020	QEKJ0JM-476Z	E CAPACITOR	47µF,6.3V
C8021	X-E02LU0331M	E CAPACITOR	330µF,6.3V
C8022	QEKJ1HM-475Z	E CAPACITOR,B,C,D	4.7µF,50V
C8023	NCB21EK-104X	CAPACITOR	0.1µF,25V
C8024	QEKJ1CM-106Z	E CAPACITOR,B,C,D	10µF,16V
C8025	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
C8026	NCB21HK-102X	CAPACITOR	0.001µF,50V
C8027	X-CS0RB0216K	CAPACITOR	1µF,16V
C8028	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
C8029	X-CS0RB0216K	CAPACITOR	1µF,16V
C8030	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
C8031	NCB21HK-102X	CAPACITOR	0.001µF,50V
C8032	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
C8033	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
C8035	NCB21EK-104X	CAPACITOR	0.1µF,25V
C8036	NCB21HK-103X	CAPACITOR	0.01µF,50V
C8038	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
C8039	NCB21EK-104X	CAPACITOR	0.1µF,25V
C8040	X-E00NU5010M	E CAPACITOR	1µF,50V
C8041	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
C8043	QETN0JM-477Z	E CAPACITOR	470µF,6.3V
C8045	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
C8046	NCF21HZ-104X	CAPACITOR,B,C,D	0.1µF,50V
C8047	X-CS0RB0216K	CAPACITOR	1µF,16V
C8048	QEKJ1HM-105Z	E CAPACITOR	1µF,50V
C8049	X-CS0RB0216K	CAPACITOR	1µF,16V
C8050	QEKJ1CM-226Z	E CAPACITOR,B,C,D	22µF,16V
C8051	QETN0JM-477Z	E CAPACITOR	470µF,6.3V
C8052	NCB21HK-102X	CAPACITOR	0.001µF,50V
C8053	QETN0JM-477Z	E CAPACITOR	470µF,6.3V
C8054	NCB21HK-102X	CAPACITOR	0.001µF,50V
C8057	X-CS0KCH411D	CAPACITOR,A	10pF,50V
	NDC21HJ-100X	CAPACITOR,B,C,D	10pF,50V
C8059	QETN0JM-477Z	E CAPACITOR	470µF,6.3V
C8060	QEKJ1HM-475Z	E CAPACITOR	4.7µF,50V
C8062	NDC21HJ-471X	CAPACITOR	470pF,50V
C8065	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
C8067	NDC21HJ-471X	CAPACITOR	470pF,50V
C8068	NDC21HJ-471X	CAPACITOR	470pF,50V
C8069	QEKJ1AM-336Z	E CAPACITOR	33µF,10V
C8072	NDC21HJ-101X	CAPACITOR	100pF,50V
C8073	NDC21HJ-471X	CAPACITOR	470pF,50V
C8075	QEKJ1CM-226Z	E CAPACITOR	22µF,16V
C8078	NDC21HJ-471X	CAPACITOR	470pF,50V
C8079	NDC21HJ-471X	CAPACITOR	470pF,50V
C8080	NCB21HK-223X	CAPACITOR	0.022µF,50V
C8081	NDC21HJ-471X	CAPACITOR	470pF,50V
C8082	NDC21HJ-471X	CAPACITOR	470pF,50V
C8083	QETN1CM-476Z	E CAPACITOR	47µF,16V
C8084	X-E02LU2101M	E CAPACITOR	100µF,16V
C8085	QETN0JM-477Z	E CAPACITOR	470µF,6.3V
C8087	X-E62KU52R2M	E CAPACITOR	2.2µF,50V
C8088	X-E62KU52R2M	E CAPACITOR	2.2µF,50V
C8089	NDC21HJ-821X	CAPACITOR	820pF,50V
C8090	NDC21HJ-821X	CAPACITOR	820pF,50V
C8091	QEKJ1AM-336Z	E CAPACITOR	33µF,10V
C8092	NCB21HK-152X	CAPACITOR	0.0015µF,50V
C8093	NCB21HK-152X	CAPACITOR	0.0015µF,50V
C8094	NDC21HJ-101X	CAPACITOR	100pF,50V

HR-XV1EK	A	HR-XV1EU-S	C
HR-XV1EU-C	B	HR-XV1EU-Y	D

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C8095	NDC21HJ-101X	CAPACITOR	100pF,50V
		C8096	QEKJ1HM-225Z	E CAPACITOR	2.2µF,50V
		C8097	QEKJ1CM-226Z	E CAPACITOR	22µF,16V
		C8098	QEKJ1CM-226Z	E CAPACITOR	22µF,16V
		C8099	QEKJ1HM-225Z	E CAPACITOR	2.2µF,50V
		C8100	NCF21HZ-104X	CAPACITOR	0.1µF,50V
		C8101	QETN1CM-337Z	E CAPACITOR	330µF,16V
		C8102	NDC21HJ-470X	CAPACITOR	47pF,50V
		C8109	NDC21HJ-470X	CAPACITOR,B,C,D	47pF,50V
		C8115	QEKJ1HM-475Z	E CAPACITOR	4.7µF,50V
		C8116	X-CS0RCH4L1J	CAPACITOR	33pF,50V
		C8117	NCF21HZ-103X	CAPACITOR	0.01µF,50V
		C8118	QCBB1HK-103Y	CAPACITOR	0.01µF,50V
		D101	1SS133-T2	DIODE	
		D652	X-0021E5Q210	LED	LTL-1CHGE-002A
		D656	X-D2WXN40050	DIODE	1N4005-EIC
		D801	MA367-X	DIODE	
		D1702	MTZJ12C-T2	ZENER	
		D1703	1SS133-T2	DIODE	
		D1708	MTZJ13B-T2	ZENER	
		D1709	1SS133-T2	DIODE	
		D1710	MTZJ10B-T2	ZENER	
		D1711	X-D2WXN40050	DIODE,A	1N4005-EIC
		D3001	X-0010100320	INFRARED LED	LNA2702L010R
		D3002	1SS133-T2	DIODE	
		D8001	MTZJ6.8B-T2	ZENER	
		D8004	MTZJ10B-T2	ZENER	
		D8005	MTZJ10B-T2	ZENER	
		D8006	1SS133-T2	DIODE	
		D8007	1SS133-T2	DIODE	
		D8009	1SS133-T2	DIODE	
		D8010	1SS133-T2	DIODE	
		V651	X-0040F94003	LED DISPLAY	
		IC101	X-I04F38217F	IC	HA118217F
		IC102	X-I55F0384FU	IC	TC7SB384FU
		IC701	X-I0KF79605H	IC	TDA9605H
		IC801	TDA9874H-X	IC	
		IC3001	X-I56F57078B	IC,A	OEC7078B
			X-I56F57079B	IC,B,C,D	OEC7079B
		IC3004	X-I9UF032310	IC	PST3231NR
		IC3005	X-I56F07080A	IC	OEC7080A
		IC3099	S-24C08ADP	IC	
		IC4501	X-I53J4775MA	IC	LC74775M-9839
		IC8001	X-I03F030260	IC	LA73026V
		IC8002	X-I0QF02533V	IC,B,C,D	NJM2533V(TE2)
		IC8003	BA3308FV-X	IC	
		IC8004	X-I0QF045800	IC	NJM4580M
		Q102	X-TCAT032034	TRANSISTOR	KTC3203_Y-AT
		Q104	X-TCAT032034	TRANSISTOR	KTC3203_Y-AT
		Q105	X-TPAAC05002	TRANSISTOR	KRA103SRTK
		Q106	X-TCATC31980	TRANSISTOR	KTC3198-AT(Y,GR)
		Q107	X-TCATC31980	TRANSISTOR	KTC3198-AT(Y,GR)
		Q108	DTC143EKA-X	TRANSISTOR	
		Q110	DTC143EKA-X	TRANSISTOR	
		Q111	X-TCAA3875SY	TRANSISTOR	KTC3875S_Y_RTK
		Q113	DTC143EKA-X	TRANSISTOR	
		Q651	X-TPAAC05002	TRANSISTOR	KRA103SRTK
		Q653	KRC103S-X	TRANSISTOR	
		Q654	X-TAAA1504SY	TRANSISTOR	KTA1504S_Y_RTK
		Q655	KRC103S-X	TRANSISTOR	
		Q656	KRC103S-X	TRANSISTOR	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		Q657	X-TAAA1504SY	TRANSISTOR	KTA1504S_Y_RTK
		Q658	KRC103S-X	TRANSISTOR	
		Q659	KRC103S-X	TRANSISTOR	
		Q660	X-TAAA1504SY	TRANSISTOR	KTA1504S_Y_RTK
		Q661	KRC103S-X	TRANSISTOR	
		Q662	X-TAAA1504SY	TRANSISTOR	KTA1504S_Y_RTK
		Q663	KRC103S-X	TRANSISTOR	
		Q664	KRC103S-X	TRANSISTOR	
		Q665	X-TAAA1504SY	TRANSISTOR	KTA1504S_Y_RTK
		Q666	KRC103S-X	TRANSISTOR	
		Q667	KRC103S-X	TRANSISTOR	
		Q1701	X-TCAT032034	TRANSISTOR	KTC3203_Y-AT
		Q1702	X-TCAT03209Y	TRANSISTOR	KTC3209_Y-AT
		Q1703	X-TCAT03209Y	TRANSISTOR	KTC3209_Y-AT
		Q1705	X-TCAA3875SY	TRANSISTOR	KTC3875S_Y_RTK
		Q1706	X-TAAT01241Y	TRANSISTOR	KTA1241_Y-AT
		Q1707	X-TCAA3875SY	TRANSISTOR	KTC3875S_Y_RTK
		Q1708	X-TCAT03209Y	TRANSISTOR	KTC3209_Y-AT
		Q1709	KRC103S-X	TRANSISTOR	
		Q1711	KRC103S-X	TRANSISTOR	
		Q1712	X-TCAT03209Y	TRANSISTOR	KTC3209_Y-AT
		Q1713	X-TAAT012714	TRANSISTOR	KTA1271_Y-AT
		Q1714	KRC103S-X	TRANSISTOR	
		Q3001	X-0000M00390	PHOTO TRANSISTOR	ST-304L
		Q3002	X-0000M00390	PHOTO TRANSISTOR	ST-304L
		Q3003	KRC103S-X	TRANSISTOR	
		Q3004	X-0002700680	PHOTO COUPLER	RPI-352C40N
		Q3005	X-0002700680	PHOTO COUPLER	RPI-352C40N
		Q3006	X-0002700690	PHOTO COUPLER	RPI-303
		Q3007	X-0002700690	PHOTO COUPLER	RPI-303
		Q3008	KRC103S-X	TRANSISTOR	
		Q3009	KRC103S-X	TRANSISTOR	
		Q4501	X-TAAA1504SY	TRANSISTOR	KTA1504S_Y_RTK
		Q8001	X-TAAA1504SY	TRANSISTOR	KTA1504S_Y_RTK
		Q8002	X-TCAA3875SY	TRANSISTOR	KTC3875S_Y_RTK
		Q8003	DTC144EKA-X	TRANSISTOR	DTC144EKAT146
		Q8004	X-TPAAB05001	TRANSISTOR	KRA102SRTK
		Q8005	KTC3199/Y/-T	TRANSISTOR	KTC3199_Y-AT
		Q8006	X-TCAA3875SY	TRANSISTOR	KTC3875S_Y_RTK
		Q8009	X-TNAAB05003	TRANSISTOR,B,C,D	KRC102SRTK
		Q8012	KRC103S-X	TRANSISTOR	
		Q8013	X-TPAAA05001	TRANSISTOR	KRA101SRTK
		Q8014	X-TCAA3875SY	TRANSISTOR	KTC3875S_Y_RTK
		Q8015	X-TCAA3875SY	TRANSISTOR	KTC3875S_Y_RTK
		B8001	X-024HT03564	CORE,BEADS	
		B8005	X-024HT03564	CORE,BEADS	
		L103	QQL29BJ-101Z	COIL	100µH
		L104	X-031616003R	COIL,BIASOSC	
		L105	QQL29BJ-220Z	COIL	22µH
		L106	QQL29BJ-101Z	COIL	100µH
		L107	X-021LA6R22M	COIL	0.22µH
		L108	X-021LA6R22M	COIL	0.22µH
		L109	X-021LA6R22M	COIL	0.22µH
		L110	QQL29BJ-101Z	COIL	100µH
		L111	QQL231K-221Y	COIL	220µH
		L112	X-021LA6120K	COIL	12µH
		L113	QQL29BJ-220Z	COIL	22µH
		L116	QQL29BJ-101Z	COIL	100µH
		L124	QQL29BJ-101Z	COIL	100µH
		L301	QQL29BJ-220Z	COIL,B,C,D	22µH
		L701	QQL29BJ-101Z	COIL	100µH

HR-XV1EK	A	HR-XV1EU-S	C
HR-XV1EU-C	B	HR-XV1EU-Y	D

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		L702	QQL29BJ-101Z	COIL	100µH
		L801	QQL231K-2R7Y	COIL	2.7µH
		L802	QQL29BJ-220Z	COIL	22µH
		L4501	NQL024J-330X	COIL	39µH
		L4502	NQL024J-330X	COIL	33µH
		L4503	QQL231K-220Y	COIL	22µH
		L4505	QQL29BJ-101Z	COIL	100µH
		L4506	QQL231K-220Y	COIL	22µH
		L8001	QQL231K-101Y	COIL	100µH
		L8002	QQL29BJ-101Z	COIL	100µH
		L8003	QQL071J-101Y	COIL,A	100µH
			QQL231K-101Y	COIL,B,C,D	100µH
		L8004	QQL29BJ-101Z	COIL	100µH
		L8005	QQL29BJ-101Z	COIL	100µH
		L8006	X-021LA6R27M	COIL	0.27µH
		L8007	X-021LA6R27M	COIL	0.27µH
		L8008	QQL29BJ-470Z	COIL,B,C,D	47µH
		L8009	X-0216A6100K	COIL,A	10µH
			QQL231K-100Y	COIL,B,C,D	10µH
		L8010	X-0216A6100K	COIL,A	10µH
			QQL231K-100Y	COIL,B,C,D	10µH
		L8011	X-0216A6100K	COIL,A	10µH
			QQL231K-100Y	COIL,B,C,D	10µH
		L8015	X-0216A6100K	COIL,A	10µH
			QQL231K-100Y	COIL,B,C,D	10µH
		L8016	QQL29BJ-101Z	COIL	100µH
		L8017	X-021LA61R0M	COIL	1µH
		J8001	X-060J401082	RCA JACK,COAXIAL	
		J8002	X-060J411020	RCA JACK.AUDIO OUT	
		J8003	X-063D700005	JACK,S	
		J8004	X-060J421023	RCA JACK,FRONT AUDIO(R) IN	
		J8005	X-063G000072	SOCKET,21PIN	
		J8006	X-060J401080	RCA JACK,FRONT AUDIO(L) IN	
		J8007	X-060J401079	RCA JACK,FRONT VIDEO IN	
		SW651	QSW0456-001Z	TACT SWITCH,EJECT	
		SW652	QSW0456-001Z	TACT SWITCH,POWER	
		SW653	QSW0456-001Z	TACT SWITCH,VCR/DVD	
		SW654	QSW0456-001Z	TACT SWITCH,CH UP	
		SW655	QSW0456-001Z	TACT SWITCH,CH DOWN	
		SW3001	X-0508S11001	LEAF SWITCH,TAB	
		CP101	X-0697290620	CONNECTOR PCB SIDE	
		CP102	X-069J760029	CONNECTOR PCB SIDE	
		CP103	X-0697120320	CONNECTOR PCB SIDE	
		CP653	X-069J750019	CONNECTOR PCB SIDE	
		CP1701	X-069R2E0589	CONNECTOR,PCB SIDE	
		CP3001	X-06972C0010	CONNECTOR PCB SIDE	
		CP8001	X-069S2D0629	CONNECTOR PCB SIDE	
		CP8002	X-069J7I0019	CONNECTOR,PCB SIDE	
		X101	X-100CT4R407	CRYSTAL	HC-49/U
		X801	X-100CT02401	CRYSTAL	HC-49/U
		X3001	QAX0236-001	CRYSTAL	32.768KHz
		X3002	X-100CT01207	CRYSTAL	HC-49/U-S
		X3003	X-1001T4R010	CERAMIC OSCILLATOR	EFOMC4004T4
	⚠	TU301	X-0162K01022	RF UNIT,A	
	⚠		X-0162K01029	RF UNIT,B,C,D	
		OS651	X-077Q037001	REMOTE RECEIVER	
		OS8001	GP1FA550TZ	OPTICAL DEVICE	GP1FA550TZ

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	

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DVD BOARD ASSEMBLY <50>

PCB130	X-A2A775D130B	PCB ASSY	
R1001	NRSA02J-222X	MG RESISTOR	2.2KΩ,1/10W
R1002	NRSA63J-222X	MG RESISTOR	2.2KΩ,1/16W
R1003	NRSA02J-222X	MG RESISTOR	2.2KΩ,1/10W
R1005	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R1006	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R1009	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R1010	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R1011	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R1012	NRSA63J-222X	MG RESISTOR	2.2KΩ,1/16W
R1013	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
R1014	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
R1015	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R1016	NRSA63J-472X	MG RESISTOR	4.7KΩ,1/16W
R1017	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R1018	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R1021	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
R1022	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R1024	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
R1025	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
R1026	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R1027	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R1028	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
R1029	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R1030	NRSA63J-102X	MG RESISTOR	1KΩ,1/16W
R1031	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
R1033	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R1034	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R1035	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
R1036	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R1037	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R1038	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
R1039	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
R1040	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
R1041	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
R1042	NRSA63J-102X	MG RESISTOR	1KΩ,1/16W
R1044	NRSA02J-222X	MG RESISTOR	2.2KΩ,1/10W
R1047	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
R1049	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R1050	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R1058	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R1060	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R1095	NRSA63J-223X	MG RESISTOR	22KΩ,1/16W
R1099	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
R2001	NRSA02J-332X	MG RESISTOR	3.3KΩ,1/10W
R2002	NRSA02J-223X	MG RESISTOR	22KΩ,1/10W
R2004	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
R2005	NRSA02J-473X	MG RESISTOR	47KΩ,1/10W
R2006	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
R2008	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R2009	NRSA02J-473X	MG RESISTOR	47KΩ,1/10W
R2010	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
R2011	NRSA02J-223X	MG RESISTOR	22KΩ,1/10W
R2012	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R2013	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
R2014	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W

HR-XV1EK	A	HR-XV1EU-S	C
HR-XV1EU-C	B	HR-XV1EU-Y	D

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R2015	NRSA02J-332X	MG RESISTOR	3.3KΩ,1/10W
		R2016	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2018	NRSA02J-222X	MG RESISTOR	2.2KΩ,1/10W
		R2019	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
		R2020	NRSA63J-472X	MG RESISTOR	4.7KΩ,1/16W
		R2021	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R2022	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
		R2023	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R2024	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R2026	NRSA63J-222X	MG RESISTOR	2.2KΩ,1/16W
		R2027	X-R803R9223F	MG RESISTOR	22KΩ,1/16W
		R2028	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
		R2029	X-R803R9333F	MG RESISTOR	33KΩ,1/16W
		R2030	NRSA63J-222X	MG RESISTOR	2.2KΩ,1/16W
		R2031	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2032	X-R803R9223F	MG RESISTOR	22KΩ,1/16W
		R2033	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
		R2034	X-R803R9333F	MG RESISTOR	33KΩ,1/16W
		R2035	NRSA63J-332X	MG RESISTOR	3.3KΩ,1/16W
		R2036	NRSA02J-334X	MG RESISTOR	330KΩ,1/10W
		R2037	NRSA63J-333X	MG RESISTOR	33KΩ,1/16W
		R2038	NRSA63J-562X	MG RESISTOR	18KΩ,1/16W
		R2039	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R2042	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
		R2044	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R2045	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
		R2046	NRSA02J-474X	MG RESISTOR	470KΩ,1/10W
		R2047	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
		R2048	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
		R2049	NRSA02J-332X	MG RESISTOR	3.3KΩ,1/10W
		R2050	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
		R2052	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R2601	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R2603	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R2607	NRSA63J-562X	MG RESISTOR	91Ω,1/16W
		R2608	NRSA02J-4R7X	MG RESISTOR	4.7Ω,1/10W
		R2609	NRSA63J-3R3X	MG RESISTOR	3.3Ω,1/16W
		R2610	NRSA63J-562X	MG RESISTOR	91Ω,1/16W
		R2611	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
		R2612	NRSA63J-225X	MG RESISTOR	2.2MΩ,1/16W
		R2613	NRSA02J-4R7X	MG RESISTOR	4.7Ω,1/10W
		R2614	NRSA63J-4R7X	MG RESISTOR	4.7Ω,1/16W
		R2615	NRSA63J-473X	MG RESISTOR	47KΩ,1/16W
		R2616	NRSA02J-473X	MG RESISTOR	47KΩ,1/10W
		R2617	NRSA63J-225X	MG RESISTOR	2.2MΩ,1/16W
		R2618	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
		R2619	NRSA02J-473X	MG RESISTOR	47KΩ,1/10W
		R2621	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
		R2622	NRSA02J-473X	MG RESISTOR	47KΩ,1/10W
		R2623	NRSA63J-473X	MG RESISTOR	47KΩ,1/16W
		R2624	NRSA02J-562X	MG RESISTOR	5.6KΩ,1/10W
		R2625	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2626	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R2627	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R2628	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2629	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R2630	NRSA02J-104X	MG RESISTOR	100KΩ,1/10W
		R2631	NRSA02J-152X	MG RESISTOR	1.5KΩ,1/10W
		R2632	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R2633	X-R803R9202F	MG RESISTOR	2KΩ,1/16W
		R2634	NRSA02J-222X	MG RESISTOR	2.2KΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R2635	NRSA63J-472X	MG RESISTOR	4.7KΩ,1/16W
		R2636	NRSA02J-4R7X	MG RESISTOR	4.7Ω,1/10W
		R2637	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
		R2638	NRSA63J-332X	MG RESISTOR	3.3KΩ,1/16W
		R2639	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R2641	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
		R2642	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
		R4001	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R4002	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R4003	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R4004	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R4005	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R4006	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R4007	NRSA02J-102X	MG RESISTOR	1KΩ,1/10W
		R4009	QRE141J-3R9X	RESISTOR	3.9Ω,1/4W
		R4010	NRSA02J-472X	MG RESISTOR	4.7KΩ,1/10W
		R4011	X-R803R9122F	MG RESISTOR	1.2KΩ,1/16W
		R4012	X-R803R9223F	MG RESISTOR	22KΩ,1/16W
		R4013	X-R803R9122F	MG RESISTOR	1.2KΩ,1/16W
		R4015	NRSA02J-473X	MG RESISTOR	47KΩ,1/10W
		R4016	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
		R4017	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R4018	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
		R4019	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R4020	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
		R4021	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R4022	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
		R4023	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R4024	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
		R4025	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R4026	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
		R4027	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R4028	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
		R4029	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R4030	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
		R4031	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R4034	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R8501	NRSA63F-750X	MG RESISTOR	75Ω,1/16W 1%
		R8502	NRSA63F-750X	MG RESISTOR	75Ω,1/16W 1%
		R8503	NRSA02J-222X	MG RESISTOR	2.2KΩ,1/10W
		R8504	NRSA63F-750X	MG RESISTOR	75Ω,1/16W 1%
		R8505	NRSA02J-222X	MG RESISTOR	2.2KΩ,1/10W
		R8506	NRSA02J-222X	MG RESISTOR	2.2KΩ,1/10W
		R8507	NRSA63F-750X	MG RESISTOR	75Ω,1/16W 1%
		R8508	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R8509	NRSA02J-222X	MG RESISTOR	2.2KΩ,1/10W
		R8510	NRSA63F-151X	MG RESISTOR	150Ω,1/16W 1%
		R8511	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R8512	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R8513	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R8514	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R8515	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R8516	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R8517	NRSA63J-472X	MG RESISTOR	4.7KΩ,1/16W
		R8518	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R8519	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R8520	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R8521	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R8522	NRSA63F-750X	MG RESISTOR	75Ω,1/16W 1%
		R8523	NRSA63F-750X	MG RESISTOR	75Ω,1/16W 1%
		R8524	NRSA02J-681X	MG RESISTOR	680Ω,1/10W

HR-XV1EK	A	HR-XV1EU-S	C
HR-XV1EU-C	B	HR-XV1EU-Y	D

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R8525	X-R833R9512D	MG RESISTOR	5.1KΩ,1/16W
		R8526	X-R833R9512D	MG RESISTOR	5.1KΩ,1/16W
		R8527	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
		R8528	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R8529	NRSA02J-103X	MG RESISTOR	10KΩ,1/10W
		R8530	NRSA63J-103X	MG RESISTOR	10KΩ,1/16W
		R8531	X-R833R9512D	MG RESISTOR	5.1KΩ,1/16W
		R8532	X-R833R9512D	MG RESISTOR	5.1KΩ,1/16W
		R8540	NRSA63F-750X	MG RESISTOR	75Ω,1/16W 1%
		R8541	NRSA63F-750X	MG RESISTOR	75Ω,1/16W 1%
		R8542	NRSA63F-750X	MG RESISTOR	75Ω,1/16W 1%
		R8544	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R8545	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R8546	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R8548	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		C1003	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C1007	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C1009	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C1010	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C1011	NDC31HJ-4R0X	CAPACITOR	4pF,50V
		C1012	NDC31HJ-4R0X	CAPACITOR	4pF,50V
		C1013	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C1018	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C1019	NCB31HK-222X	CAPACITOR	0.0022µF,50V
		C1020	QEKB1CM-107	E CAPACITOR	100µF,16V
		C1021	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C1022	QEKB1CM-107	E CAPACITOR	100µF,16V
		C1025	X-E524U1101D	E CAPACITOR	100µF,10V
		C1027	X-E524U1101D	E CAPACITOR	100µF,10V
		C1028	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C1029	QEKB1CM-107	E CAPACITOR	100µF,16V
		C1030	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2001	NDC31HJ-331X	CAPACITOR	330pF,50V
		C2002	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C2003	X-CS0PB04H4K	CAPACITOR	0.022µF,50V
		C2004	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C2005	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C2006	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C2007	NCF21CZ-2R2X	CAPACITOR	2.2µF,16V
		C2008	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C2010	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2011	NCF21EZ-105X	CAPACITOR	1µF,25V
		C2014	NCB31EZ-104X	CAPACITOR	0.1µF,25V
		C2015	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2018	NCF21CZ-2R2X	CAPACITOR	2.2µF,16V
		C2019	NCB31EZ-104X	CAPACITOR	0.1µF,25V
		C2020	NCB31EZ-104X	CAPACITOR	0.1µF,25V
		C2021	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2023	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C2024	NDC31HJ-101X	CAPACITOR	100pF,50V
		C2025	NCB31HK-153X	CAPACITOR	0.015µF,50V
		C2026	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2027	NCF21CZ-2R2X	CAPACITOR	2.2µF,16V
		C2028	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C2029	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C2030	NCB31HK-103X	CAPACITOR	0.01µF,50V
		C2031	NDC31HJ-151X	CAPACITOR	150pF,50V
		C2035	NDC31HJ-101X	CAPACITOR	100pF,50V
		C2036	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2037	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2038	NCB31HK-153X	CAPACITOR	0.015µF,50V
		C2039	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C2040	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2041	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2042	NCF21EZ-105X	CAPACITOR	1µF,25V
		C2044	NCF21EZ-105X	CAPACITOR	1µF,25V
		C2045	X-E524U1101D	E CAPACITOR	100µF,10V
		C2046	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2047	NCF21EZ-105X	CAPACITOR	1µF,25V
		C2048	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2049	NDC31HJ-100X	CAPACITOR	10pF,50V
		C2050	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2051	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2060	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C2601	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2602	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2603	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2604	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2605	NCF21CZ-2R2X	CAPACITOR	2.2µF,16V
		C2606	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2607	NCF21CZ-2R2X	CAPACITOR	2.2µF,16V
		C2608	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2609	NCF21EZ-105X	CAPACITOR	1µF,25V
		C2610	NCF21EZ-105X	CAPACITOR	1µF,25V
		C2611	NCF21CZ-2R2X	CAPACITOR	2.2µF,16V
		C2612	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2613	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2614	NCF21CZ-2R2X	CAPACITOR	2.2µF,16V
		C2615	X-E524U1101D	E CAPACITOR	100µF,10V
		C2616	NCF21CZ-2R2X	CAPACITOR	2.2µF,16V
		C2617	NCF21CZ-2R2X	CAPACITOR	2.2µF,16V
		C2618	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C2619	NCF21CZ-2R2X	CAPACITOR	2.2µF,16V
		C2620	NCF21EZ-105X	CAPACITOR	1µF,25V
		C2621	NCF21EZ-105X	CAPACITOR	1µF,25V
		C2622	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C2623	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2624	X-E524U1101D	E CAPACITOR	100µF,10V
		C2625	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C2626	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C2628	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C2629	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2630	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C2631	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C2632	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2633	NDC31HJ-221X	CAPACITOR	220pF,50V
		C2634	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2635	NCB31HK-222X	CAPACITOR	0.0022µF,50V
		C2638	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C2639	X-E524U1101D	E CAPACITOR	100µF,10V
		C2640	X-CS0YB04H4K	CAPACITOR	0.022µF,50V
		C4003	NCF21CZ-2R2X	CAPACITOR	2.2µF,16V
		C4004	X-E524U1101D	E CAPACITOR	100µF,10V
		C4005	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C4006	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C4007	X-E524U1101D	E CAPACITOR	100µF,10V
		C4008	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C4010	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C4012	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C4020	NCF31EZ-104X	CAPACITOR	0.1µF,25V
		C4029	QETM1AM-108	E CAPACITOR	1000µF,10V
		C4031	NCF31EZ-104X	CAPACITOR	0.1µF,25V

HR-XV1EK	A	HR-XV1EU-S	C
HR-XV1EU-C	B	HR-XV1EU-Y	D

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C4033	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4037	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4038	QEKB1CM-107	E CAPACITOR	100µF,16V
C4041	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4044	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4045	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C4048	NDC31HJ-221X	CAPACITOR	220pF,50V
C8501	NCF21CZ-2R2X	CAPACITOR	2.2µF,16V
C8502	NDC31HJ-330X	CAPACITOR	33pF,50V
C8503	NDC31HJ-330X	CAPACITOR	33pF,50V
C8504	NDC31HJ-200X	CAPACITOR	20pF,50V
C8505	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C8506	X-E524U1101D	E CAPACITOR	100µF,10V
C8507	X-E524U2100D	E CAPACITOR	10µF,16V
C8508	X-E524U2100D	E CAPACITOR	10µF,16V
C8509	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C8510	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C8511	X-E524U2100D	E CAPACITOR	10µF,16V
C8512	X-E524U2100D	E CAPACITOR	10µF,16V
C8513	QEKJ1CM-106Z	E CAPACITOR	10µF,16V
C8514	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C8515	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C8516	X-E524U1101D	E CAPACITOR	100µF,10V
C8517	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C8518	X-E524U1101D	E CAPACITOR	100µF,10V
C8519	X-E524U2100D	E CAPACITOR	10µF,16V
C8520	X-E524U1101D	E CAPACITOR	100µF,10V
C8521	X-E524U2100D	E CAPACITOR	10µF,16V
C8522	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C8523	X-P1S3T0182J	F CAPACITOR	0.0018µF,50V
C8524	X-P1M4T0332J	F CAPACITOR	0.0033µF,50V
C8525	X-P1S3T0182J	F CAPACITOR	0.0018µF,50V
C8526	X-P1M4T0332J	F CAPACITOR	0.0033µF,50V
C8528	QETM1AM-108	E CAPACITOR	1000µF,10V
C8529	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C8537	NCF31EZ-104X	CAPACITOR	0.1µF,25V
C8539	X-E524U1101D	E CAPACITOR	100µF,10V
C8542	NCB31HK-103X	CAPACITOR	0.01µF,50V
C8543	NCB31HK-103X	CAPACITOR	0.01µF,50V
D2601	X-DD5R003680	DIODE	1SS368(TPH3)
D2602	X-DD5R003680	DIODE	1SS368(TPH3)
D4001	X-D2WXN40050	DIODE	1N4005-EIC
D8501	X-DD5R002260	DIODE	1SS226(TE85L)
D8502	X-DD5R002260	DIODE	1SS226(TE85L)
D8503	X-DD5R002260	DIODE	1SS226(TE85L)
D8504	X-DD5R002260	DIODE	1SS226(TE85L)
D8505	X-DD5R002260	DIODE	1SS226(TE85L)
IC1001	X-I55K0251AF	IC	OEC6069A
IC1002	S-24C01BFJ-X	IC	
IC1005	TC7S08F-X	IC	
IC1006	TC7W241FU-X	IC	
IC2001	X-I05F094A03	IC	OEC6068A
IC2002	X-I59J0258B3	IC	MSM5416258B-30
IC2601	TC7S04F-X	IC	
IC2602	X-I07FV58130	IC	BA5813FM
IC2603	X-I05FR1323F	IC	OEC6067A
IC4001	X-ICQF067320	IC	ZR36732
IC4002	X-I5HF96A250	IC	S-816A25AMC-BAA-T2
IC4003	X-I59J0160FB	IC	MSM56V16160F-8
IC4004	X-I59J0160FB	IC	MSM56V16160F-8
IC4005	X-I59J0258B3	IC	MSM5416258B-30

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
IC4006	X-I5QJ0F8315	IC	BA-55pFTN-SFK-31
IC8501	TC7SH08FU-X	IC	
IC8503	X-I1BF019590	IC	AD1959YRSRL
IC8504	X-I0UFG540A0	IC	MM1540AFBE
Q1003	X-TPAAB05001	TRANSISTOR	KRA102SRTK
Q1004	X-TPAAB05001	TRANSISTOR	KRA102SRTK
Q2001	X-T85A03326B	TRANSISTOR	2SC3326_B(TE85L)
Q2601	X-TNAAB05003	TRANSISTOR	KRC102SRTK
Q2602	X-TS5M000037	TRANSISTOR	HN1C03F_B(TE85L)
Q2603	X-TS5M000036	TRANSISTOR	HN1B01F_Y(TE85L)
Q2604	X-TS5M000036	TRANSISTOR	HN1B01F_Y(TE85L)
Q2605	X-T65A01213Y	TRANSISTOR	2SA1213_Y(TE12L,C)
Q4001	X-T65A01213Y	TRANSISTOR	2SA1213_Y(TE12L,C)
Q8501	X-TAAA1504SY	TRANSISTOR	KTA1504S_Y_RTK
Q8502	X-TAAA1504SY	TRANSISTOR	KTA1504S_Y_RTK
Q8503	X-TAAA1504SY	TRANSISTOR	KTA1504S_Y_RTK
Q8505	X-TAAA1504SY	TRANSISTOR	KTA1504S_Y_RTK
Q8507	X-TNAAB05003	TRANSISTOR	KRC102SRTK
Q8508	X-TS5M000037	TRANSISTOR	HN1C03F_B(TE85L)
Q8509	X-TCAA3875SY	TRANSISTOR	KTC3875S_Y_RTK
Q8510	X-TPAAB05001	TRANSISTOR	KRA102SRTK
Q8511	X-TPAAB05001	TRANSISTOR	KRA102SRTK
Q8512	X-T85A03326B	TRANSISTOR	2SC3326_B(TE85L)
Q8513	X-T85A03326B	TRANSISTOR	2SC3326_B(TE85L)
B8501	X-024HC31022	CORE,BEADS	
B8502	X-024HC31022	CORE,BEADS	
B8503	X-024HC31022	CORE,BEADS	
L4001	NQL034K-150X	COIL	15µH
L8501	NQL034K-150X	COIL	15µH
L8507	X-X-02AHB9A972	CORE,FERRITE	
CD8002	X-122H0I1801	CORD,JUMPER	
CP2601	X-069EV8T020	CONNECTOR,PCB SIDE	
CP2602	X-069EVNT020	CONNECTOR,PCB SIDE	
CP2603	X-069J760029	CONNECTOR PCB SIDE	
CP8502	X-069J7I0019	CONNECTOR,PCB SIDE	
X1001	X-1002T00901	CERAMIC OSCILLATOR	
X8501	X-100WT02706	CRYSTAL	27MHz
NR1001	X-110N4101M3	NETWORK RESISTOR	
NR1002	X-110N4101M3	NETWORK RESISTOR	
NR1003	X-110N4101M3	NETWORK RESISTOR	
NR1004	X-110N4101M3	NETWORK RESISTOR	
NR1005	X-110N4101M3	NETWORK RESISTOR	
NR1006	X-110N4101M3	NETWORK RESISTOR	
NR1007	X-110N4101M3	NETWORK RESISTOR	
NR1008	X-110N4101M3	NETWORK RESISTOR	
NR1009	X-110N4101M3	NETWORK RESISTOR	
NR1010	X-110N4101M3	NETWORK RESISTOR	
NR1011	X-110N4101M3	NETWORK RESISTOR	
CD8501	X-06CU2D3001	CORD CONNECTOR	
CD8502	X-06CU262501	CORD CONNECTOR	
CUS131	X-800WFAA006	CUSHION,A	

****

OPERATION BOARD ASSEMBLY <28>

PCB270	X-A2A775D270B	PCB ASSY	
R681	QRE141J-133Y	RESISTOR	13K|,1/4W
R683	QRE141J-682Y	RESISTOR	6.8K|,1/4W
R685	QRE141J-392Y	RESISTOR	3.9K|,1/4W
R687	QRE141J-272Y	RESISTOR	2.7K|,1/4W

HR-XV1EK	A	HR-XV1EU-S	C
HR-XV1EU-C	B	HR-XV1EU-Y	D

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R688	QRE141J-332Y	RESISTOR	3.3K|,1/4W
		R689	QRE141J-362X	RESISTOR	3.6K|,1/4W
		R690	QRE141J-561Y	RESISTOR	560|,1/4W
		D681	X-0021E5Q210	LED	LTL-1CHGE-002A
		SW681	X-0504201T32	TACT SWITCH,REW	SKQNAED010
		SW682	X-0504201T32	TACT SWITCH,PLAY	SKQNAED010
		SW684	X-0504201T32	TACT SWITCH,FF	SKQNAED010
		SW686	X-0504201T32	TACT SWITCH,REC	SKQNAED010
		SW688	X-0504201T32	TACT SWITCH,STOP	SKQNAED010
		SW689	X-0504201T32	TACT SWITCH,OPEN	SKQNAED010
		CP681	X-069R750499	CONNECTOR PCB SIDE	52492-0520

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

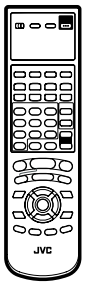
JVC

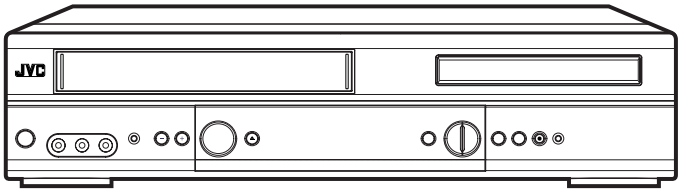
SCHEMATIC DIAGRAMS

DVD PLAYER Hi-Fi VIDEO CASSETTE RECORDER

HR-XV1EK, HR-XV1EU-C, HR-XV1EU-S, HR-XV1EU-Y

CD-ROM No.SML200207





DVD VIDEO · COMPACT disc DIGITAL VIDEO · COMPACT disc DIGITAL AUDIO · DOLBY DIGITAL · dts DIGITAL OUT · MP3 · SPATIALIZER® N-2-2™ · 4 HEAD SQPB · 19µm HEAD VHS PAL · Hi-Fi SHOWVIEW®

SPECIFICATIONS *(The specifications shown pertain specifically to the model HR-XV1EU-C.)*

GENERAL

Power supply:	AC 230V 50Hz
Power consumption:	Operation: 22W Stand by: 5W
Weight:	4.5 kg
Dimensions:	Width : 430 mm Height: 99 mm Depth : 310.5 mm
Input Level:	SCART-socket: VIDEO: 1 Vp-p, 75Ω AUDIO: 500 mV, 50 kΩ Audio IN jack: 500 mV, 50 kΩ
Output Level:	SCART-socket: VIDEO: 1 Vp-p, 75Ω AUDIO: 500 mV, 1 kΩ Audio OUT jack: 500 mV, 1 kΩ
Hi-Fi Frequency Response:	20Hz to 20,000Hz
Hi-Fi Dynamic Range:	More than 75dB

VCR section

Video Head:	4 Rotary Heads
Audio Track:	Hi-Fi Sound - 2 Tracks / MONO Sound - 1 Track
Channel covevage:	2-12, X, Y, Z, S1-S41, 21-69
RF Channel Output:	UHF channel 36 (23 to 69)
F.FWD/REW Time at 25˚C:	Approx. 1minute and 48 seconds (with E-180 Cassette Tape)

DVD section

Signal system:	PAL
Applicable disc:	DVD (12cm, 8cm), CD (12cm, 8cm)
Audio characteristics:	DVD: 4Hz - 22KHz
Frequency response:	CD: 4Hz - 20KHz
S/N Ratio:	90dB
Harmonic distortion:	1%
Wow and flutter:	Below Measurable Level
Dynamic range:	90dB
Output:	Audio : (RCA) 500 mV, 1Kohm Digital Audio : 0.5Vp-p/75 ohm
Pickup:	CD : Wavelength: 775 - 805 nm Maximum output power: 0.5 mW DVD : Wavelength: 640 - 660 nm Maximum output power: 1.0 mW

ACCESSORIES: Remote control x 1
75 ohm Coaxial Cable x 1
Battery (UM-3) x 2

V14PV1

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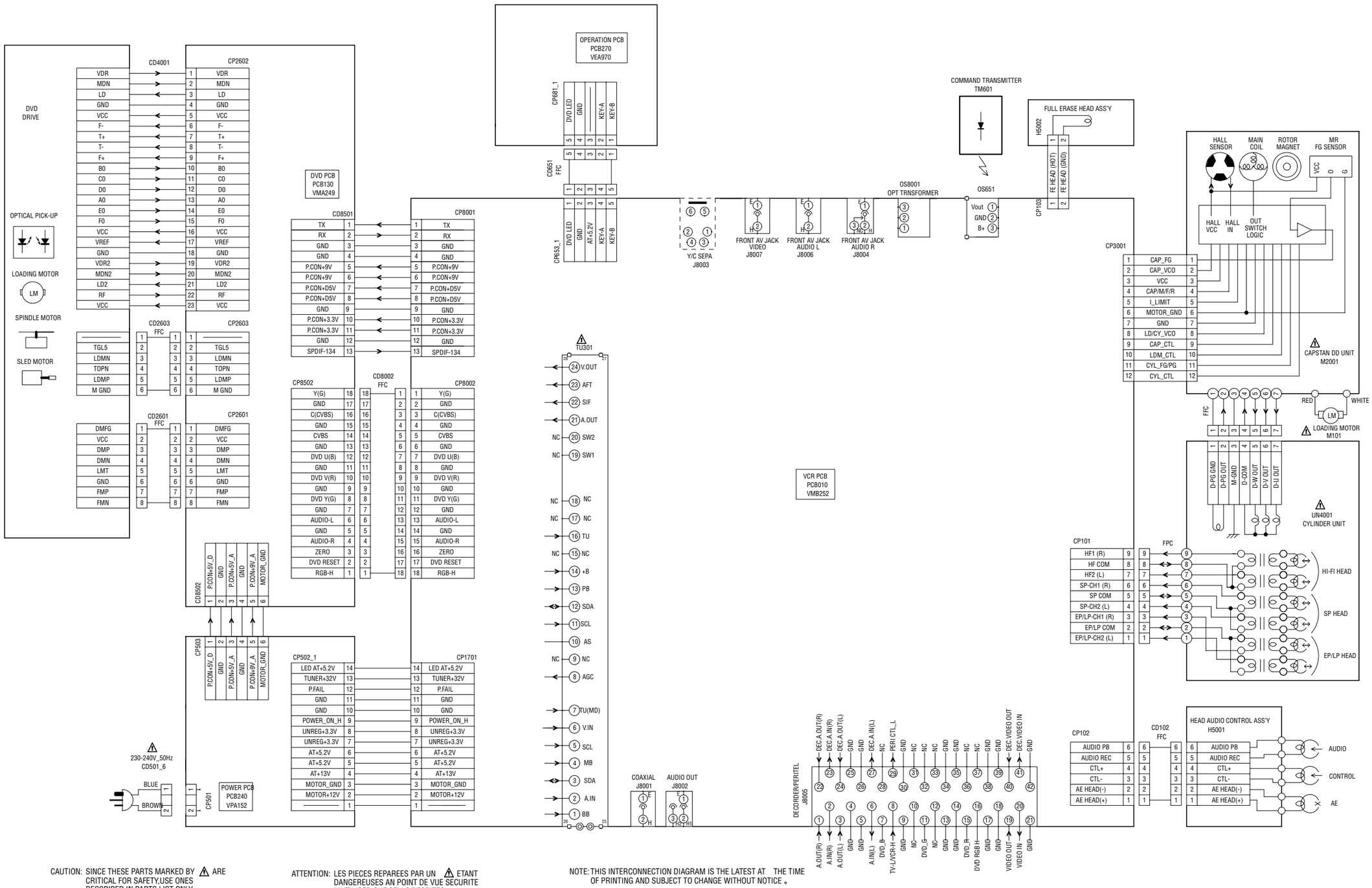
No.82927SCH
June 2002

SECTION 2
CHARTS AND DIAGRAMS

INTERCONNECTION DIAGRAM



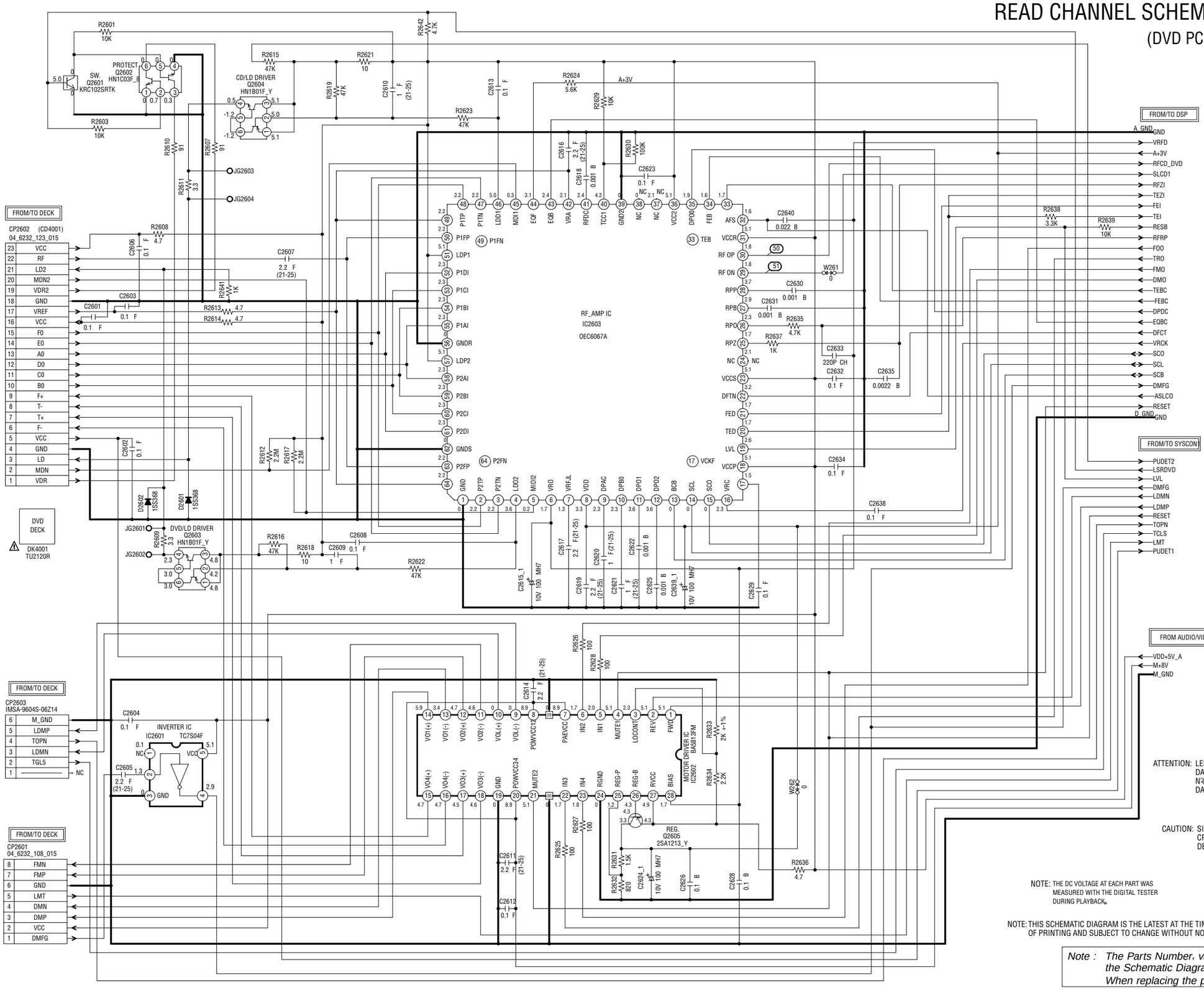
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

NOTE: THIS INTERCONNECTION DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

READ CHANNEL SCHEMATIC DIAGRAM

(DVD PCB)



ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

PCB130
VMA249

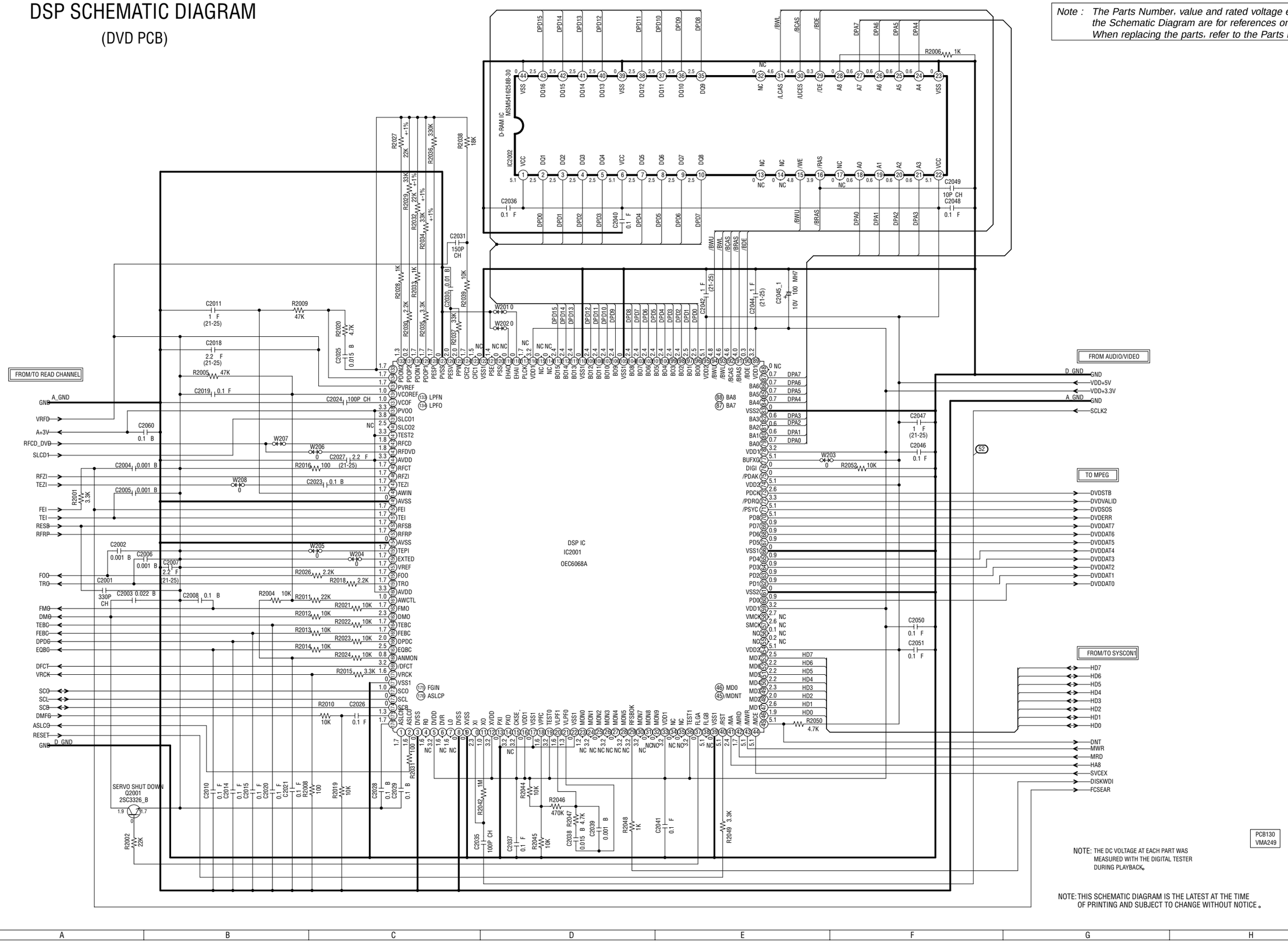
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

Note : The Parts Number, value and rated voltage etc.in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

DSP SCHEMATIC DIAGRAM

(DVD PCB)

Note : The Parts Number, value and rated voltage etc.in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

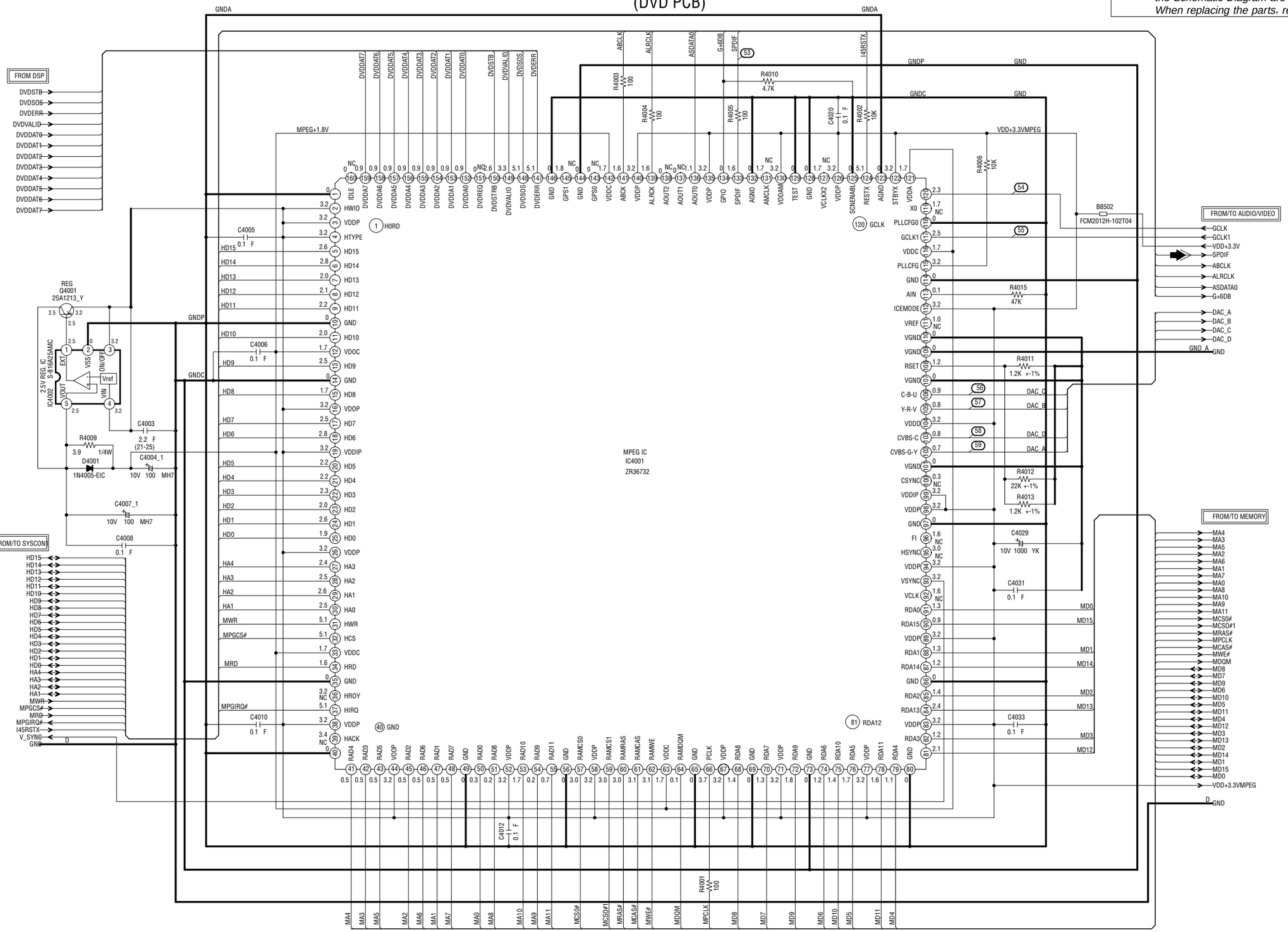


NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

MPEG SCHEMATIC DIAGRAM
(DVD PCB)

Note : The Parts Number, value and rated voltage etc.in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



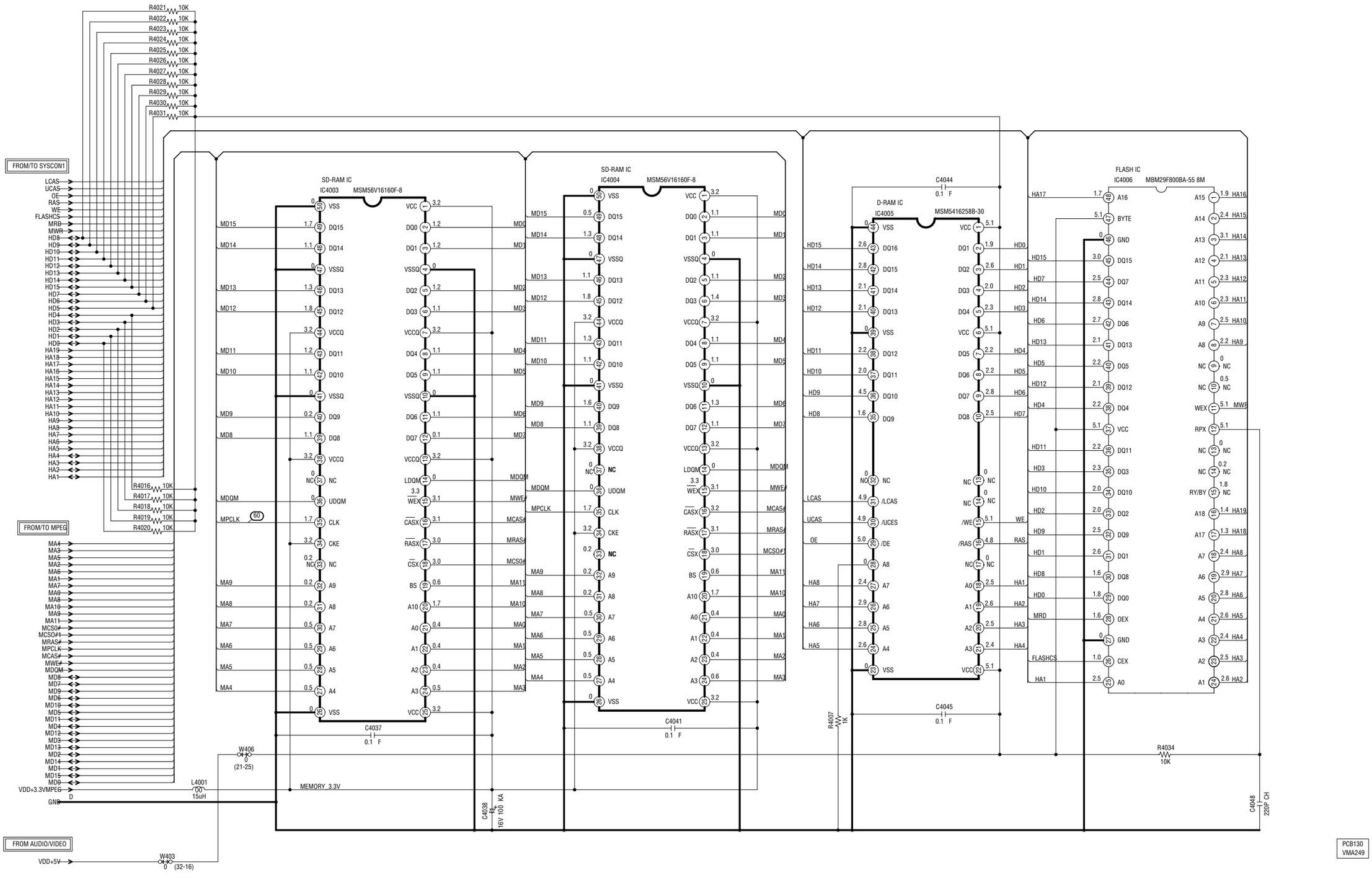
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

DIGITAL AUDIO SIGNAL(PB)

MEMORY SCHEMATIC DIAGRAM
(DVD PCB)

Note : The Parts Number, value and rated voltage etc.in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

AUDIO/VIDEO SCHEMATIC DIAGRAM (DVD PCB)

Note : The Parts Number, value and rated voltage etc.in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

FROM/TO SYSCON1
M+8V
M_GND
RSTOX
SI2
SO2
VDD+3.3V
VDD+5V
VDD+5V_A
GND
AT+5V
DACSOX
DACDATA
DACCLK
RGBON
RSTX
TO MEMORY
VDD+5V
TO DSP
A_GND
GND
D_GND
GND
VDD+5V
VDD+3.3V
SCLK2
TO READ CHANNEL
M_GND
M+8V
VDD+5V_A
FROM/TO MPEG
VDD+3.3V
GCLK
GCLK1
SPDIF
ABCLK
ALRCLK
ASDATA0
G+6DB
DAC_A
DAC_B
DAC_C
DAC_D
GND_A
RGBON

B8501 FCM2012H-102T04

DACDATA R8516 100
DACCLK R8512 220
DACSOX R8513 100
RSTX R8517 4.7K
ALRCLK
ABCLK
ASDATA0 R8546 100
R8511 10K
C8509 0.1 F
R8545 100
C8502 33P CH
W858
R8508 150
X8501 100WT02706 HC-49-US
61
C8503 33P CH
C8504 20P CH
R8515 100
R8544 100
W869 (21-25)

ATDIO DAC/PLL CLOCK GNERATOR IC
IC8503 AD1959YRSRL

1	CCLK	CDATA	32
2	CLATCH	MUTE	31
3	RSTX	ZERO	30
4	LRCK	FILTB	29
5	BCLK	AVDD	28
6	SDATA	OUTL	27
7	DVDD	AGND	26
8	DGND	FILTR	25
9	SCLKO	DUTR	24
10	MCLK	AGND	23
11	XOUT	LF1	22
12	XIN	LFO	21
13	SCLK1	PGND	20
14	SCLK2	PVDD	19

C8519_1 16V 10 MH7
C8517 0.1 F
C8521_1 16V 10 MH7
C8523 0.0018 M M
C8529 0.1 F
R8520 680
C8524 0.0033 M M
C8539_1 10V 100 MH7
C8525 0.0018 M M
C8520_1 10V 100 MH7
R8521 680
C8526 0.0033 M M

AUDIO_GND
C8542 0.01 B
R8514 10K
G+6DB
R8525 5.1K +-0.5%
AUDIO GAIN CONTROL Q8512 2SC3326_B
R8531 5.1K +-0.5%
AUDIO GAIN CONTROL Q8510 KRA102SRTK
R8527 10K
AUDIO GAIN CONTROL Q8509 KTC3875S_Y_RTK
R8528 10K
R8529 10K
AUDIO GAIN CONTROL Q8511 KRA102SRTK
R8530 10K
AUDIO GAIN CAONTROL Q8513 2SC3326_B
R8532 5.1K +-0.5%
R8526 5.1K +-0.5%
L8501 15uH
GND_A
VCC+9V

FROM POWER
CD8502 (CP3605)
CU262501

P.CON+5V_D	1
GND	2
P.CON+5V A	3
GND	4
P.CON+9V A	5
MOTOR GND	6

W855
W857
FROM/TO DVD IN/OUT
CD8501(CP8001) CU2D3001

TX	1
RX	2
GND	3
GND	4
P.CON+9V	5
P.CON+9V	6
P.CON+D5V	7
P.CON+D5V	8
GND	9
P.CON+3.3V	10
P.CON+3.3V	11
GND	12
SPDIF-134	13

B8503 FCM2012H-102T04
SI2
SO2
SPDIF 62
W854 (21-25)
L8507 W5T29X7.5X19
RSTOX
ZERO
AUDIO_L 63
AUDIO_R 64

FFC(1.25P)
FROM/TO DVD IN/OUT
CD8002 2H0I1801
CP8502 (CP8002)
IMSA-9604S-18Z13

Y(G)	18
GND	17
C(CVBS)	16
GND	15
CVBS	14
GND	13
DVD U(B)	12
GND	11
DVD V(R)	10
GND	9
DVD Y(G)	8
GND	7
AUDIO-L	6
GND	5
AUDIO-R	4
ZERO	3
DVD RESET	2
RGB-H	1

C 65
CVBS 66
Y_1 67
Y_2 68
CB 69
CR 70
W861 0
RGBON
W856 0
W866 0 (21-25)
W867 0 (21-25)
C8543 0.01 B
C8537 0.1 F

21NOUT AND GATE IC IC8501 U2H08GU
IN_B IN_A GND VCC OUT
C8501 2.2 F (21-25)
C8510 0.1 F
C8505 0.1 F
C8506_1 10V 100 MH7
R8548 100

VIDEO DRIVER IC
IC8504 MM1540AFBE

1	VCC	VCC2	28
2	VIN	VOUT	27
3	YCMIX	PS1	26
4	CIN	COUT	25
5	CLP	VEE2	24
6	YIN1	YOUT1	23
7	MUTE1	VEE2	22
8	MUTE2	VEE2	21
9	YIN2	YOUT2	20
10	GND	VEE2	19
11	CBIN	CBOUT	18
12	D/S	PS2	17
13	CRIN	CROUT	16
14	VEE1	VEE2	15

C8511_1 16V 10 MH7
R8518 10K
C8515 0.1 F
C8512_1 16V 10 MH7
R8519 10K
C8513 16V 10 KA
C8516_1 10V 100 MH7
C8507_1 16V 10 MH7
C8514 0.1 F
C8508_1 16V 10 MH7
C8518_1 10V 100 MH7
C8522 0.1 F
C8528 10V 1000 YK

REG. Q8508 HN1C03F_B
R8524 680
R8510 150 +-1%
R8522 75 +-1%
R8523 75 +-1%
R8540 75 +-1%
R8541 75 +-1%
R8542 75 +-1%

W851
R8503 2.2K
VIDEO BUFFER Q8501 KTA1504S_Y_RTK
R8501 75 +-1%
R8505 2.2K
VIDEO BUFFER Q8502 KTA1504S_Y_RTK
R8502 75 +-1%
R8506 2.2K
VIDEO BUFFER Q8503 KTA1504S_Y_RTK
R8509 2.2K
R8504 75 +-1%
R8507 75 +-1%
VIDEO BUFFER Q8505 KTA1504S_Y_RTK
RGB CTL Q8507 KRC102SRTK

D8501 1SS226
D8502 1SS226
D8503 1SS226
D8504 1SS226
D8505 1SS226

PCB130
VMA249

CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

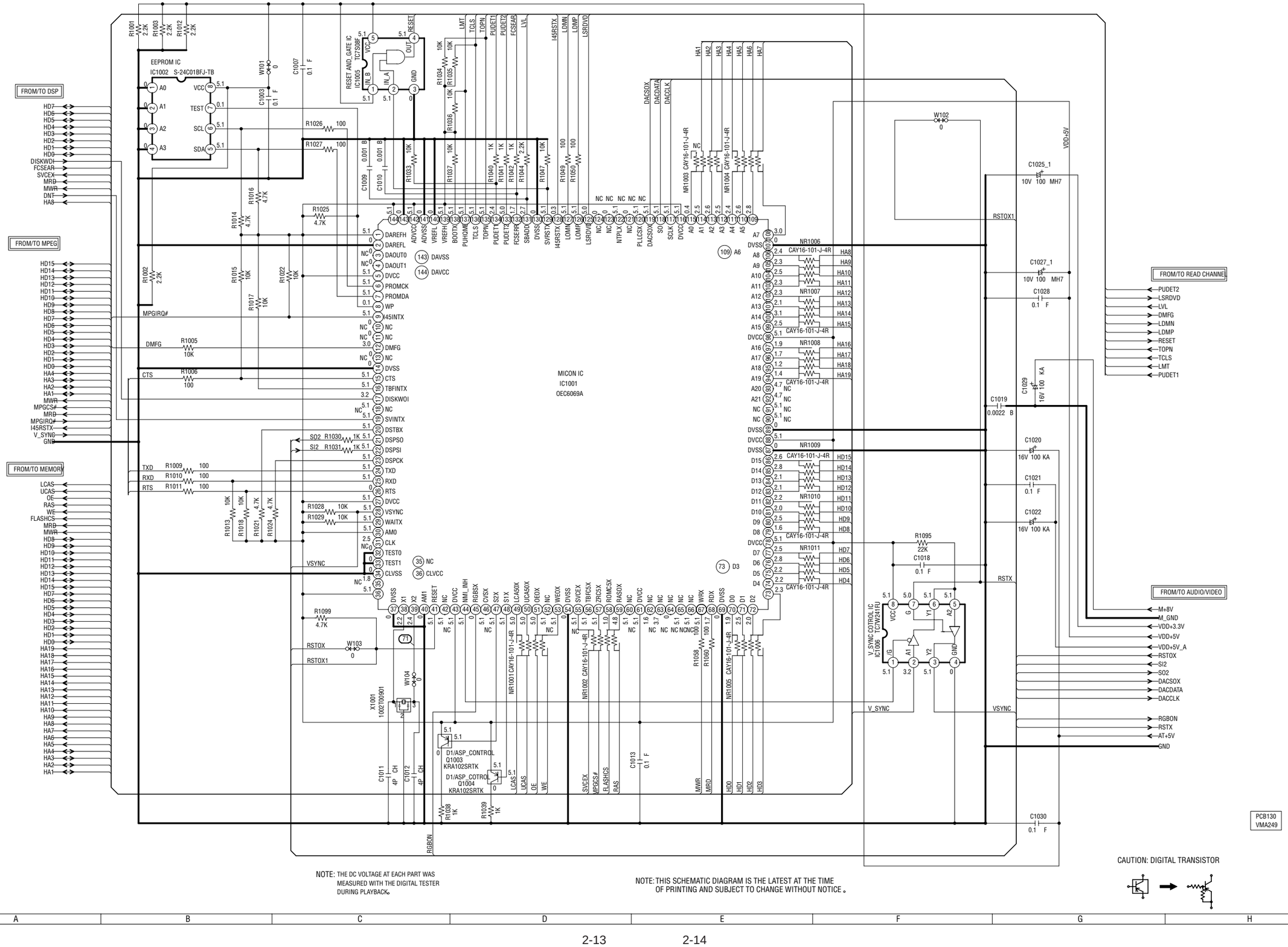
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

◀ PLAYBACK LUMINANCE SIGNAL
◁ PLAYBACK COLOR SIGNAL
◁◁ PLAYBACK VIDEO SIGNAL
◀◀ DIGITAL AUDIO SIGNAL(PB)
◀ AUDIO SIGNAL(PB)

SYSCON1 SCHEMATIC DIAGRAM

(DVD PCB)

Note : The Parts Number, value and rated voltage etc.in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION: DIGITAL TRANSISTOR

Y/C/AUDIO/HEAD AMP SCHEMATIC DIAGRAM

(VCR PCB)

FROM/TO VCR SYSCON
V.H_SW
PICTURE_CTL
NA_REC-H
DUMMY_V.SYNC
SYNC
A_MUTE/TRICK-H
IIC_DATA
IIC_CLK
ENV.DET
CTL+
CTL-
MSECAM-M/AGC/S.DET
S.DET-H

FROM TUNER/JACK
SWD_VIDEO
FRONT_V_IN
TU_V_OUT

FROM/TO HI-FI/DEMODULATOR
NORMAL_A_IN
NORMAL_A_OUT
HF1
HF2
HF_COM

FROM REGULATOR
P.CON+5V
GND

TO SUB MICON/OSD/VPS
2FSC
EE/VV_V_OUT

FROM/TO CYL

CP101 TOC-C09X-A1

9	HF1 (R)	HF1
8	HF_COM	HF_COM
7	HF2 (L)	HF2
6	SP-CH1 (R)	SP-R
5	SP_COM	SP_COM
4	SP-CH2 (L)	SP-L
3	EP/LP-CH1 (R)	EP-R
2	EP/LP_COM	EP_COM
1	EP/LP-CH2 (L)	EP-L

FROM/TO HEAD AUDIO CONTROL

CP102
IMSA-9604S-06Z14

1	AE HEAD(-)	
2	AE HEAD(+)	
3	CTL-	CTL-
4	CTL+	CTL+
5	AUDIO REC	
6	AUDIO PB	

TO FULL ERASE HEAD

CP103
TMC-T02X-E1

1	FE HEAD(GND)	
2	FE HEAD(HOT)	

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE。

CAUTION: DIGITAL TRANSISTOR

CAUTION: DIGITAL TRANSISTOR

Note : The Parts Number, value and rated voltage etc.in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

PCB010
VMB252

MICON SCHEMATIC DIAGRAM

(VCR PCB)

FROM/TO REGULATOR

GND (S/S)
MOTOR_GND
AT+5.2V
P.CON+5V
DVD_POWER_A
VCR_POWER_ON-H
POWER_FAIL
AT+5V[M-CON]
CAP_VCO
AT+12.6V

C3002 35V 330 YK

FROM/TO DECK

CP3001
TMC-J12P-B2

1	CAP_FG
2	CAP_VCO
3	VCC
4	CAP/M/F/R
5	I_LIMIT
6	GND[M]
7	GND
8	LD/CY_VCO
9	CAP_CTL
10	LDM_CTL
11	CYL_FG/PG
12	CYL_CTL

R3006 3.3K 1/4W CAP_F/R
CAP_LIMIT
C3038 0.1 F
W807
CAP_FG
CAP_CTL
CYL_FG/PG
CYL_CTL

BOT SENSOR Q3001 ST-304L
EOT SENSOR Q3002 ST-304L
EOT
BOT
TAB_SW
R3005 47K 1/4W
R3001 330K
R3003 220K
D3001 LNA270L010R
R3004 270 1/4W
TAB SW SW3001
LSA-1144EAU
CENT SW Q3003 KRC103SRTK
CENT_LED

DVD_POWER_A
C3008 18P CH
X3002 100CTD1207
R3011 1M
C3009 18P CH
R3009 470
C3011 0.1 F
C3010 18P CH
X3001 100DA32R01
R3010 10M
C3007 18P CH
RESET
R3008 100
R3007 10K
R3013 10K
SUB_CS
SUB_RESET
SERVICE 1 TP3001 NC
R3055 10K
R3015 27K
R3019 47K 1/4W 27K

DUMMY_V.SYNC
NA_REC-H
DVD_MUTE
CAP_ON
A.MUTE/TRICK-H
CENT_LED
VCR_POWER_ON-H
HIFI_H.SW
V.H_SW
DVD_RESET
S.DET-H
REM_IN
R3022 1K
CAP_LIMIT
R3024 1K 1/4W
CAP_F/R
BOT
ENV.DET
HIFI_ENV.DET
EOT
AFT_S.CURVE
KEY-B
KEY-A
MSSW_A
MSSW_B
AGC
W826
W810 MSECAM-M/AGC/S.DET

SYSCON/SOFTWARE/SERVO IC
IC3001
OEC7078B (HR-XV1EK)
OEC7079B (HR-XV1EU)

28 DVD_MUTE
29 NA_REC-H
30 VV-H
51 SEG 2
52 SEG 3
53 SEG 4
78 CYL CTL
79 REEL-S
80 REEL-T
1 MSSW_B
2 MSSW_A
3 KEY-A
100 MSECAM-M/AGC / MSECAM-M/S.DET

C3033 6.3V 47 KA
A VCC
AMP VCC
CTL AMP OUT
CTL VSS
AMP C
CTL AMP IN
CTL SW OUT
CTL +
CTL -
AMP V.IN
AMP V.OUT
AMP VSS
C3024 0.1 F
C3034 0.1 F
C3021 0.0039 B
C3029 0.1 F
C3030 16V10 KA
C3019 16V 10 KA
C3031 0.1 F
R3038 560
R3041 560
C3020 50V 4.7 KA
C3032 6.3V 47 KA
FF/REW SW Q3008 KRC103SRTK
FF/REW SW Q3009 KRC103SRTK
R3043 10K
C3037 0.001 B
DFG
CFG
C SYNC
P.FAIL
TAB_SW
R3039 10K
C3036 0.0022 B
R3054 10K
R3044 1K 1/4W
R3045 1K 1/4W
C3027 150P CH
C3023 0.0039 B
C3018 0.1 B
C3025 0.0068 B
C3026 0.0033 B
CLOCK TP3002 NC
R3030 3.3K
R3031 5.6K 1/4W
R3035 33K
R3034 22K
R3032 1K
R3037 22K
R3036 4.7K
R3025 1K
R3026 1K
R3028 100
R3029 100
C3015 50V1 KA
PICTURE_CTL
HIFI_REC_MUTE
SEG_1 SEG_2 SEG_3 SEG_4 SEG_5 SEG_6 SEG_7 SEG_8 SEG_9 SEG_10
16/VCR/T-REC_LED
2G/DUB/REC_LED
3G/TV/VCR_LED
4G/T_SHT_LED
5G/CS/BS_LED
SUB_DATA OUT
SUB_DATA_IN
SUB_CLK
CG_DATA
CG_CS
CG_CLK
IIC_CLK
IIC_SDA
32KHz MONITER
HIFI REC MUTE
V.REC ST-H
PICTURE_CTL
CAP CTL
TAB_SW
POWER FAIL
CAP_FG
CYL_FG/PG

R3017 47K 1/4W
R3018 120 1/4W
R3020 47K 1/4W
REEL-S
REEL-T
MS_SEN A Q3005 RPI-352C40N
MS_SEN B Q3004 RPI-352C40N
REEL SENSOR Q3006 RPI-3353
REEL SENSOR Q3007 RPI-3353
MSSW_A
MSSW_B
R3012 33K
R3014 100
R3016 33K
W808 IIC_DATA
W809 IIC_CLK
EEP ROM IC IC3099 S-24C08ADPA-01
SDA SCL TEST VCC
VSS A2 A1 A0
RESET
SYSTEM RESET IC IC3004 PST3231NR
OUT IN GND
W887 NC
R3033 47K
C3016 0.47 F
C3022 5.5V 0.047F
R3040 16K 1/4W
D3002 1SS133
C3028 16V 10 KA

FROM/TO TUNER/JACK
IIC_CLK
IIC_DATA
AFT_S.CURVE
AGC

FROM/TO SUB MICON/OSD/VPS
SUB_CS
SUB_CLK
SUB_DATA_IN
SUB_DATA_OUT
SUB_RESET
IIC_CLK
IIC_DATA
CG_CS
CG_CLK
CG_DATA
GND

FROM/TO Y/C/AUDIO/HEAD AMP
V.H_SW
PICTURE_CTL
NA_REC-H
DUMMY_V.SYNC
A_MUTE/TRICK-H
IIC_DATA
IIC_CLK
ENV.DET
MSECAM-M/AGC/S.DET
CTL+
CTL-
SYNC
S.DET-H

FROM/TO DISPLAY
KEY-A
KEY-B
REM_IN
1G/VCR/T-REC_LED
2G/DUB/REC_LED
3G/TV/VCR_LED
4G/T_SHT_LED
5G/CS/BS_LED
SEG_1
SEG_2
SEG_3
SEG_4
SEG_5
SEG_6
SEG_7
SEG_8
SEG_9
SEG_10

FROM/TO HI-FI/DEMODULATOR
HIFI_REC_MUTE
HIFI_ENV.DET
HIFI_H.SW
IIC_CLK
IIC_DATA

TO DVD IN/OUT
DVD_RESET
DVD_MUTE

PCB010
VMB252

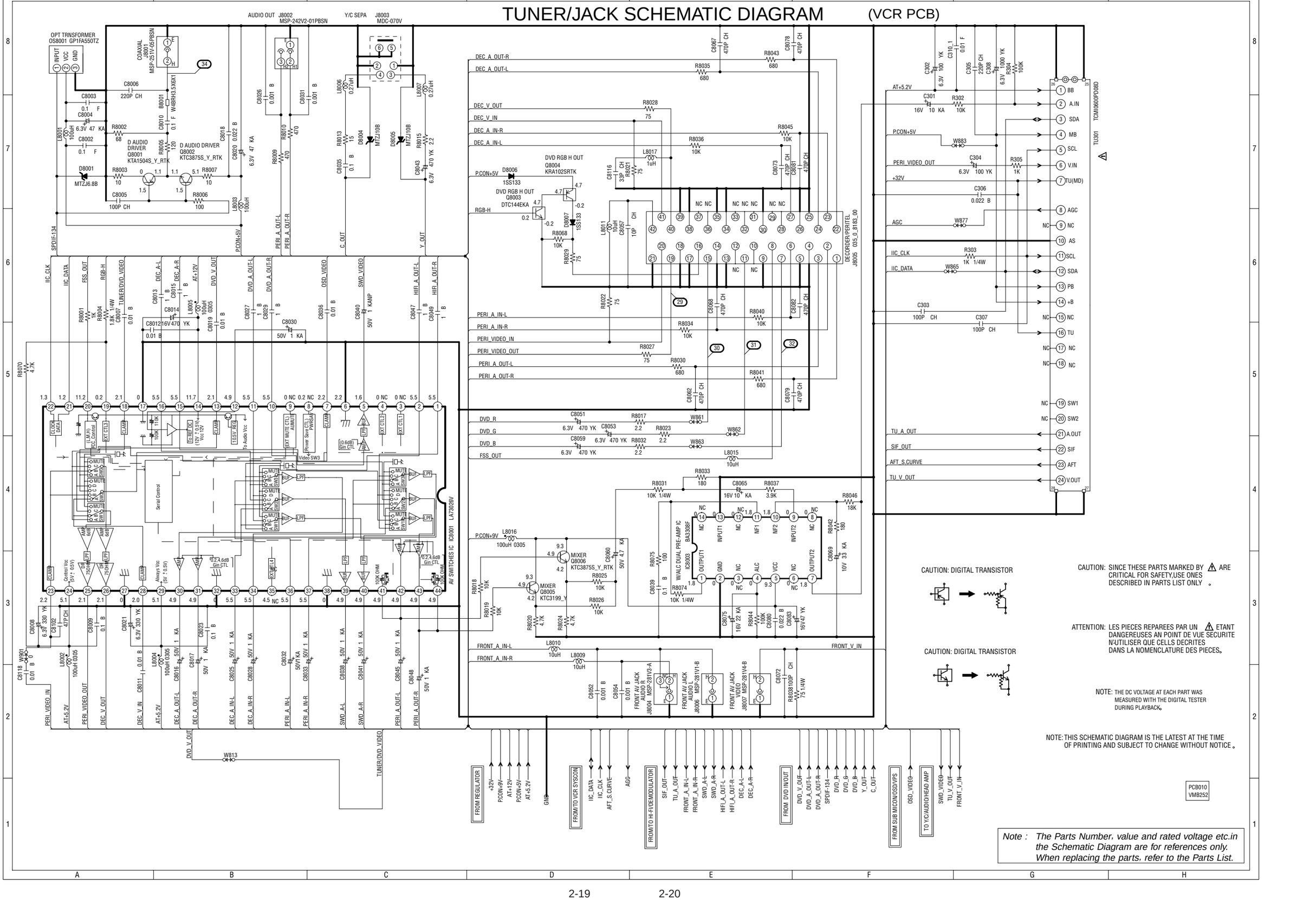
CAUTION: DIGITAL TRANSISTOR

Note : The Parts Number, value and rated voltage etc.in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

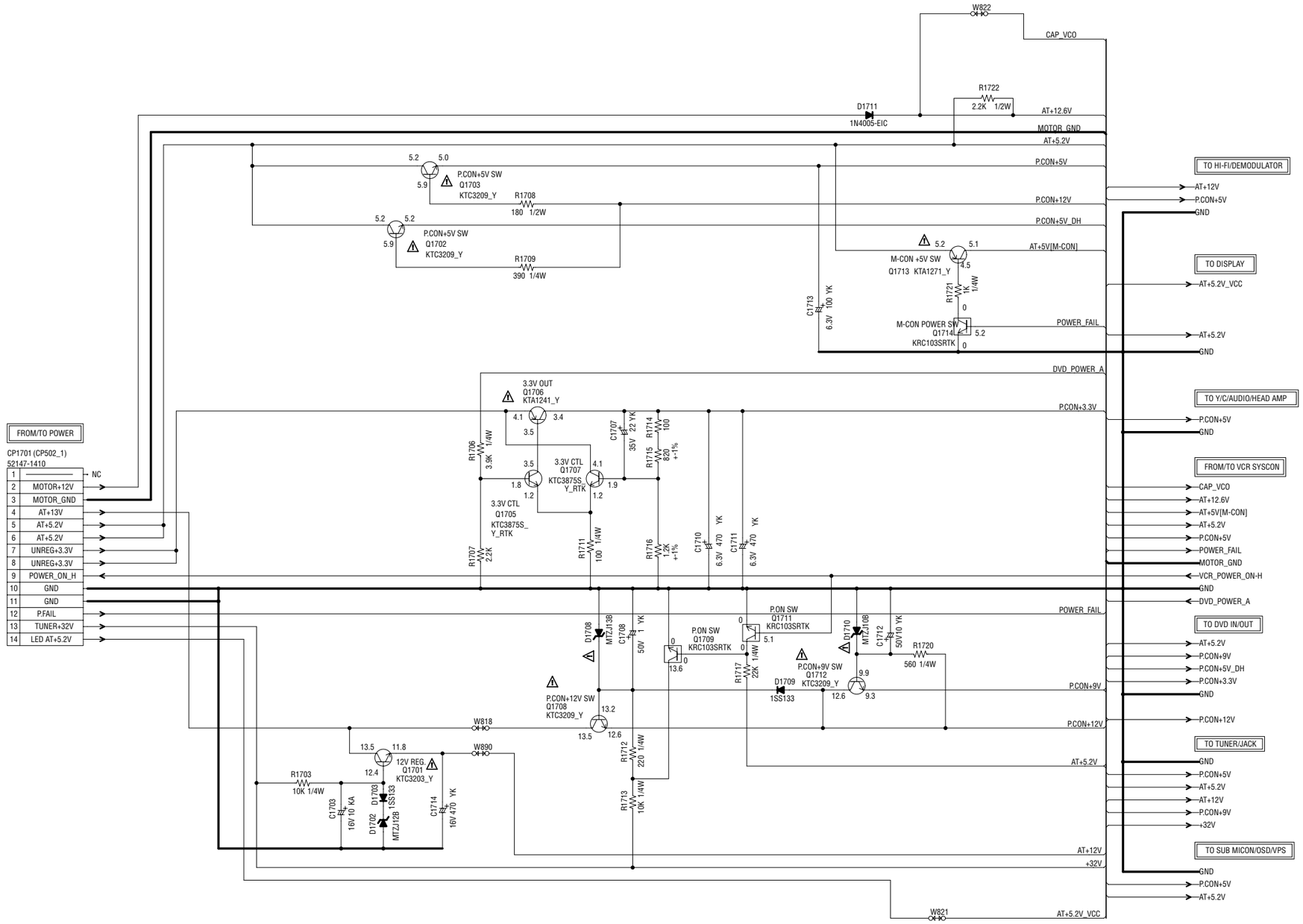
TUNER/JACK SCHEMATIC DIAGRAM (VCR PCB)


AUDIO OUT J8002 MSP-242V2-01PBSN
Y/C SEPA J8003 MDC-070V
OPT TRNSFORMER OS8001 GP1FA550TZ
COAXIAL J8001 MSP-251V-05PBSN
D AUDIO DRIVER Q8001 KTA1504S_Y_RTK
D AUDIO DRIVER Q8002 KTC3875S_Y_RTK
DVD RGB H OUT Q8004 KRA102SRTK
DVD RGB H OUT Q8003 DTC144EKA
MIXER Q8006 KTC3875S_Y_RTK
MIXER Q8005 KTC3199_Y
W/ALC DUAL PRE-AMP IC BA3308F IC8003
AV SWITCHES IC LA7932GV IC8001
DECORDER/PERITEL J8005 035_0_8183_00
TU301 TCM19600PD08D
FRONT AV JACK AUDIO J8004 MSP-281V3-A
FRONT AV JACK AUDIO J8006 MSP-281V1-B
FRONT AV JACK VIDEO J8007 MSP-281V4-B
CAUTION: DIGITAL TRANSISTOR
CAUTION: DIGITAL TRANSISTOR
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。
PCB010 VMB252
FROM REGULATOR
FROM/TO VCR SYSCON
FROM/TO HI-FI/DEMODULATOR
FROM DVD IN/OUT
FROM SUB MICON/OSD/VPS
TO Y/C/AUDIO/HEAD AMP
Note : The Parts Number, value and rated voltage etc.in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

REGULATOR SCHEMATIC DIAGRAM

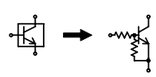
(VCR PCB)

Note : The Parts Number, value and rated voltage etc.in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



PCB010
VMB252

CAUTION: DIGITAL TRANSISTOR



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

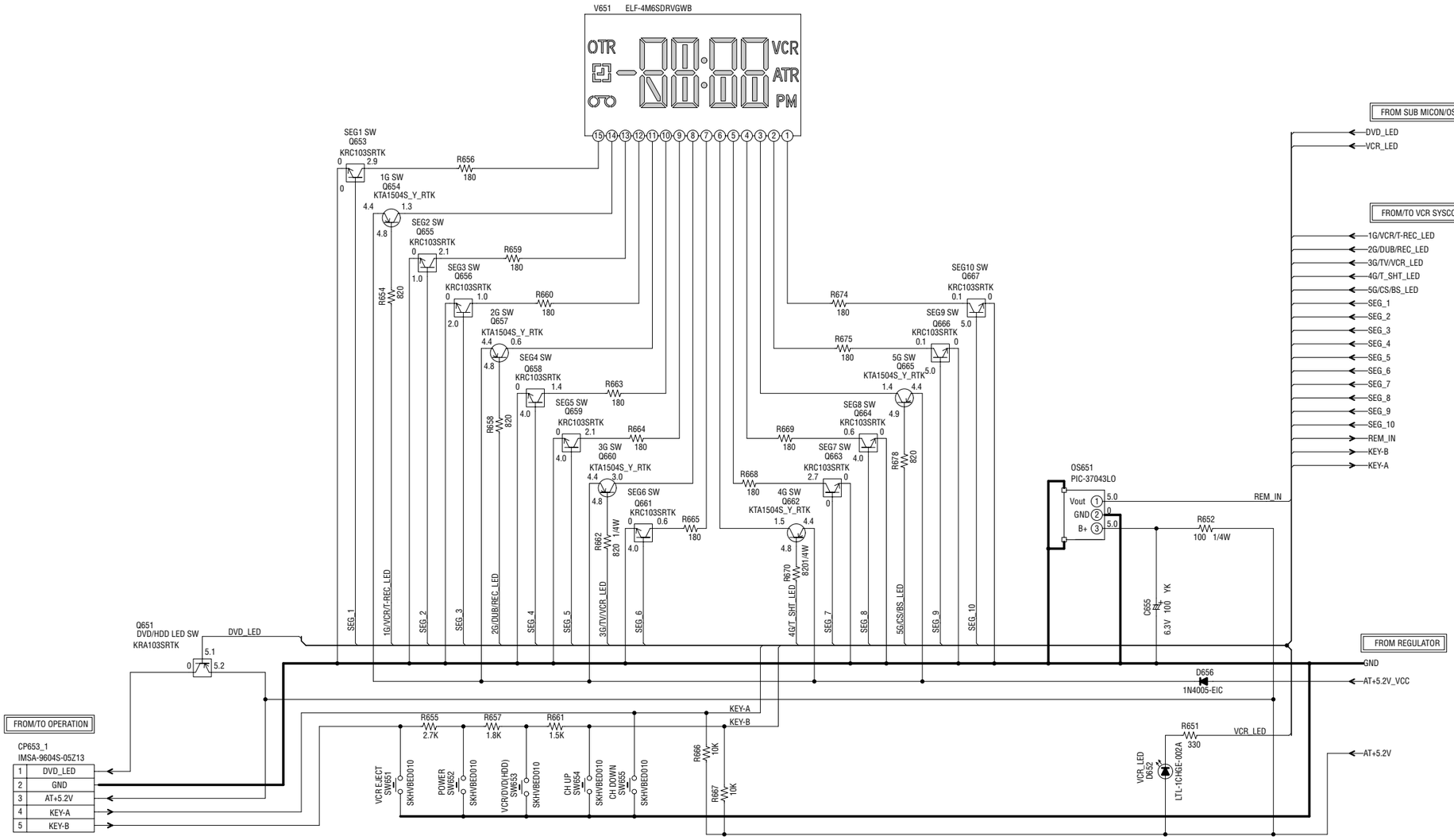
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES.

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY .

DISPLAY SCHEMATIC DIAGRAM

(VCR PCB)

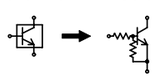
Note : The Parts Number, value and rated voltage etc.in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



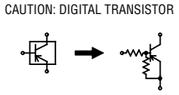
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION: DIGITAL TRANSISTOR



CAUTION: DIGITAL TRANSISTOR

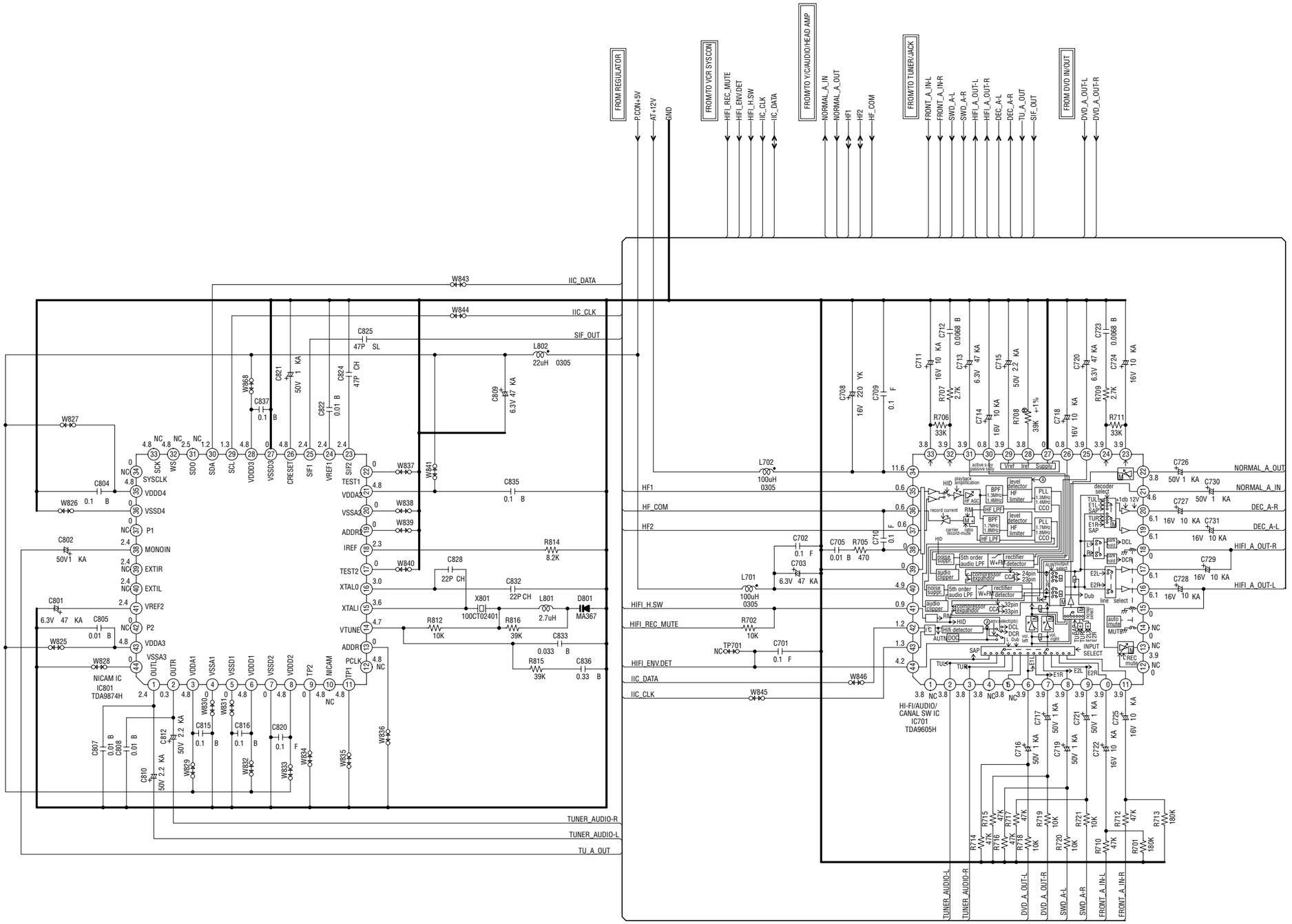


PCB010
VMB252

HI-FI/DEMODULATOR SCHEMATIC DIAGRAM

(VCR PCB)

Note : The Parts Number, value and rated voltage etc.in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



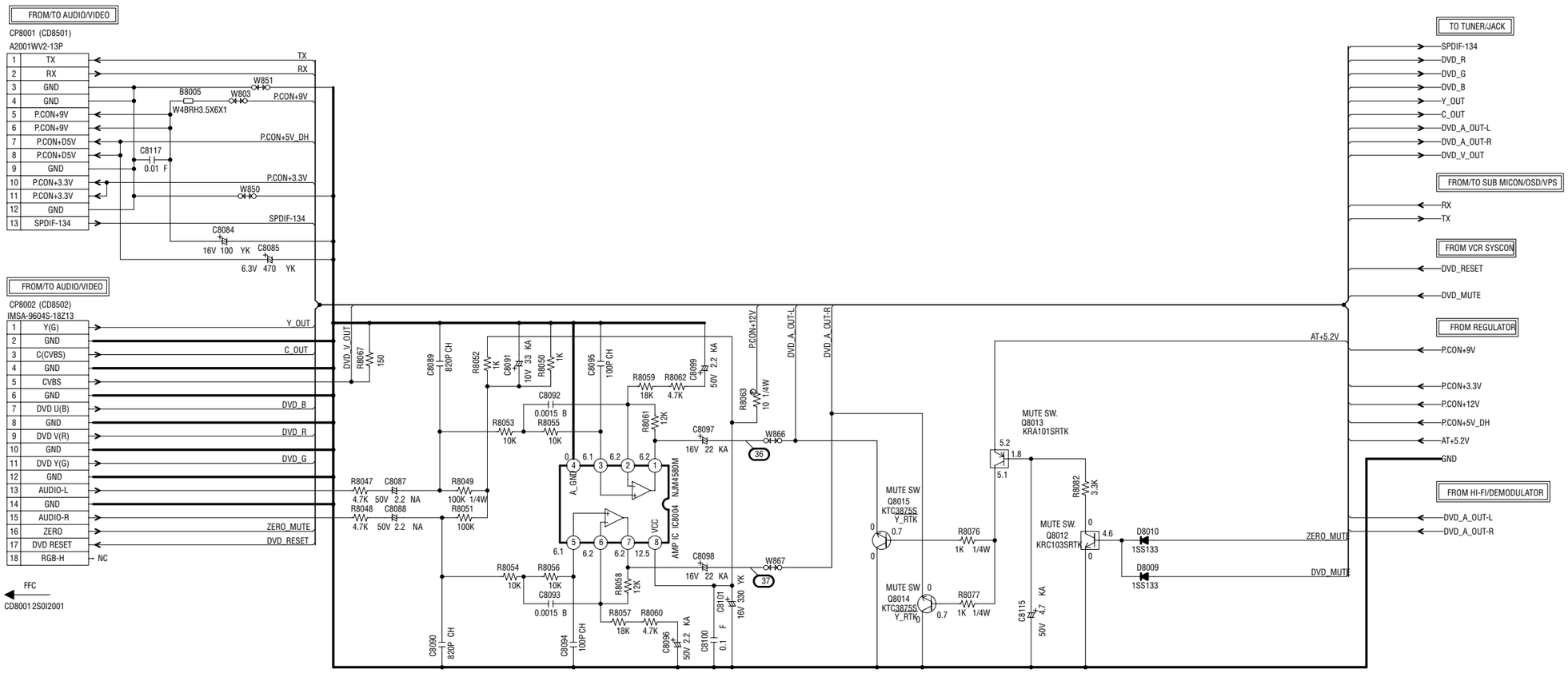
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

DVD IN/OUT SCHEMATIC DIAGRAM

(VCR PCB)

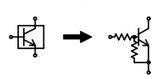
Note : The Parts Number, value and rated voltage etc.in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



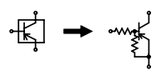
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE .

CAUTION: DIGITAL TRANSISTOR



CAUTION: DIGITAL TRANSISTOR

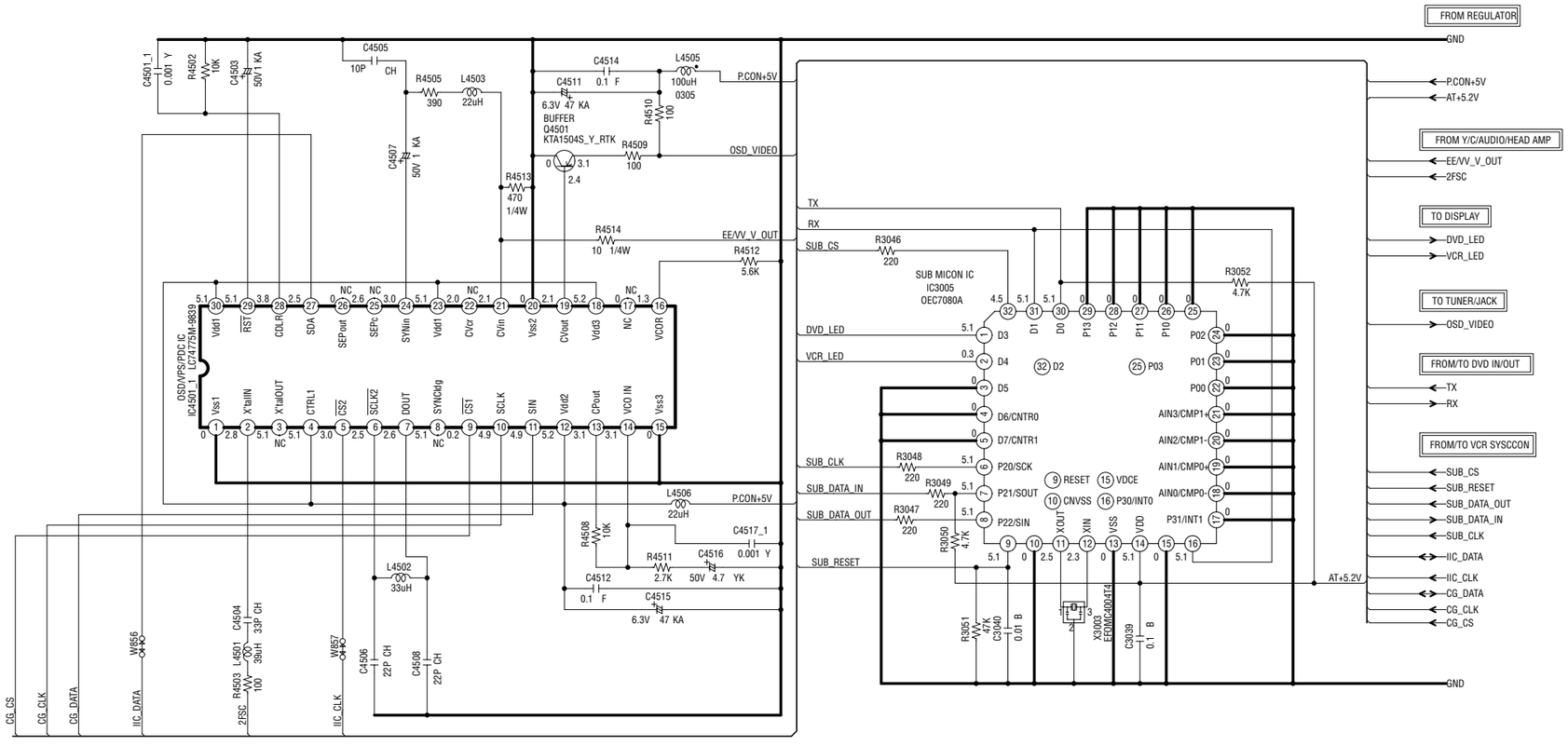


PCB010
VMB252

SUB MICON/OSD/VPS SCHEMATIC DIAGRAM

(VCR PCB)

Note : The Parts Number, value and rated voltage etc.in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



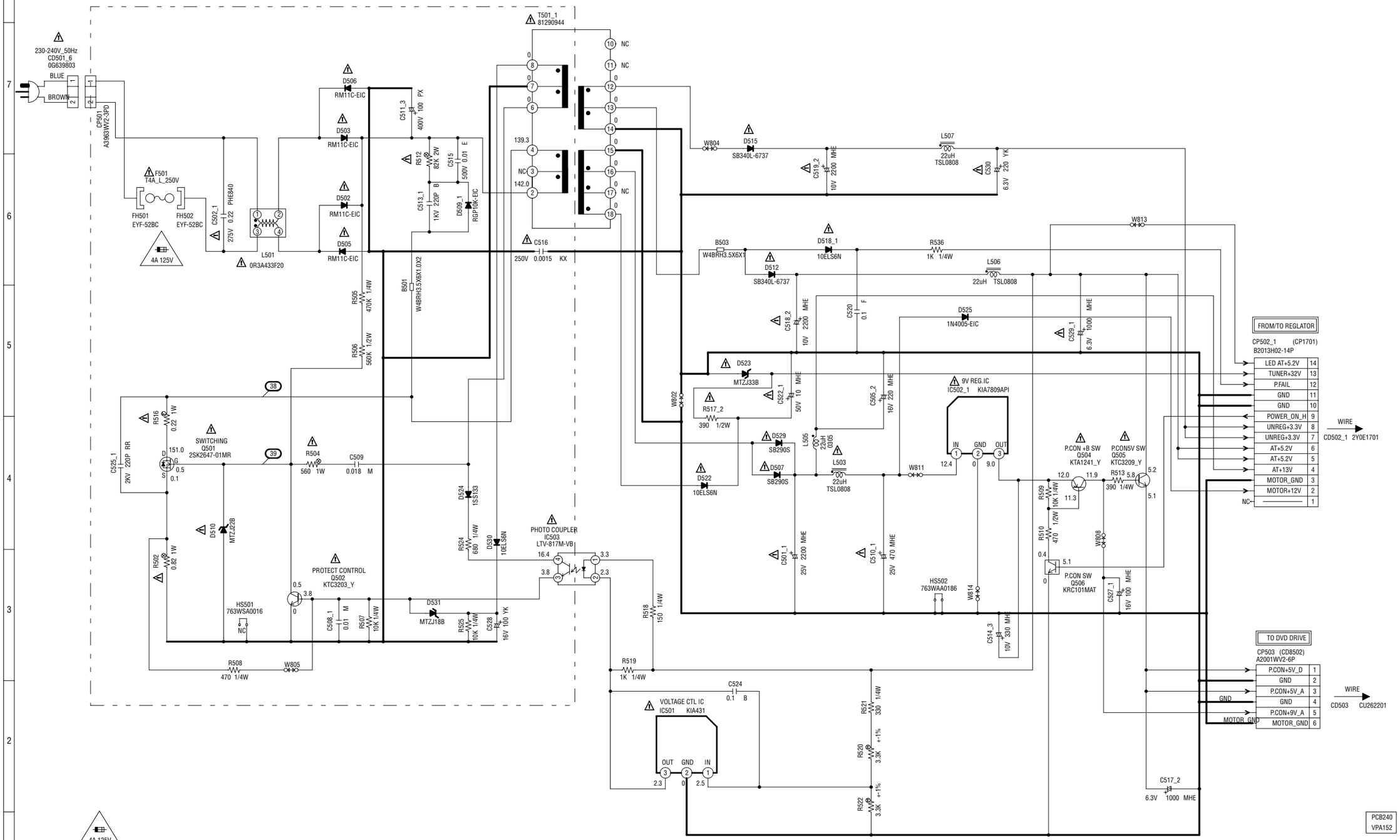
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

PCB010
VMB252

POWER SCHEMATIC DIAGRAM
(POWER PCB)

Note : The Parts Number, value and rated voltage etc.in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



4A 125V

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE 4A 125V(F501).

ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D'INCEIE N'UTILISER QUE DES FUSIBLE DE MEME TYPE 4A 125V(F501).

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY,USE ONES DESCRIBED IN PARTS LIST ONLY 。

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLS DECRITES DANS LA NOMENCLATURE DES PIECES。

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

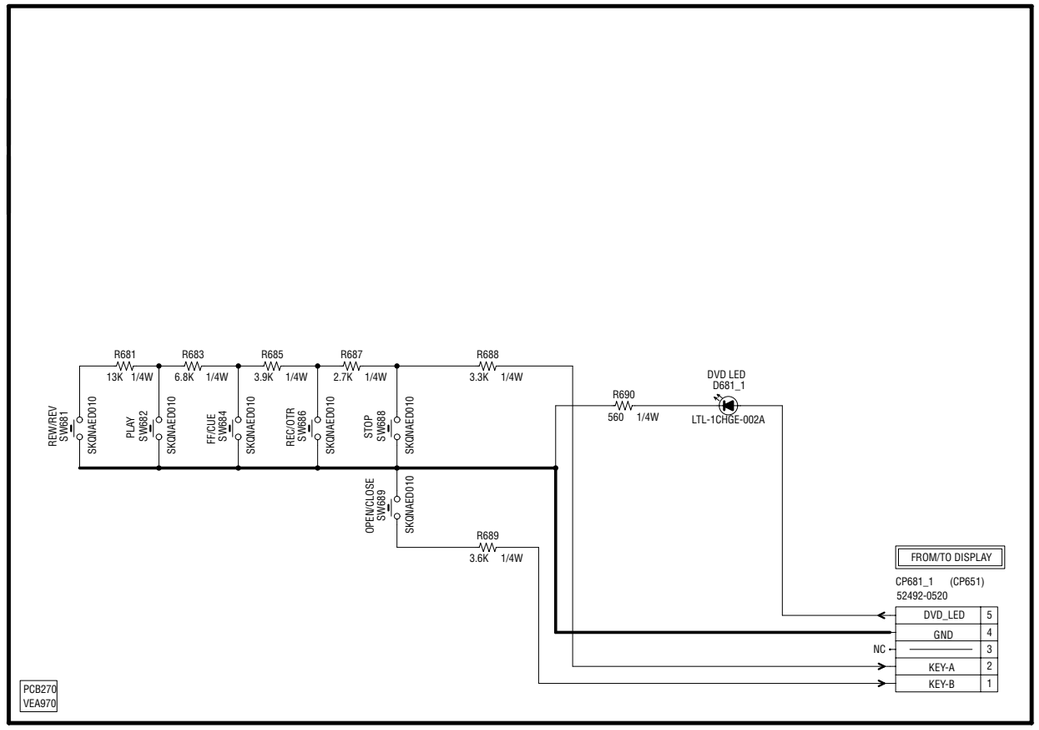
NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

CAUTION: DIGITAL TRANSISTOR

OPERATION SCHEMATIC DIAGRAM

(OPERATION PCB)

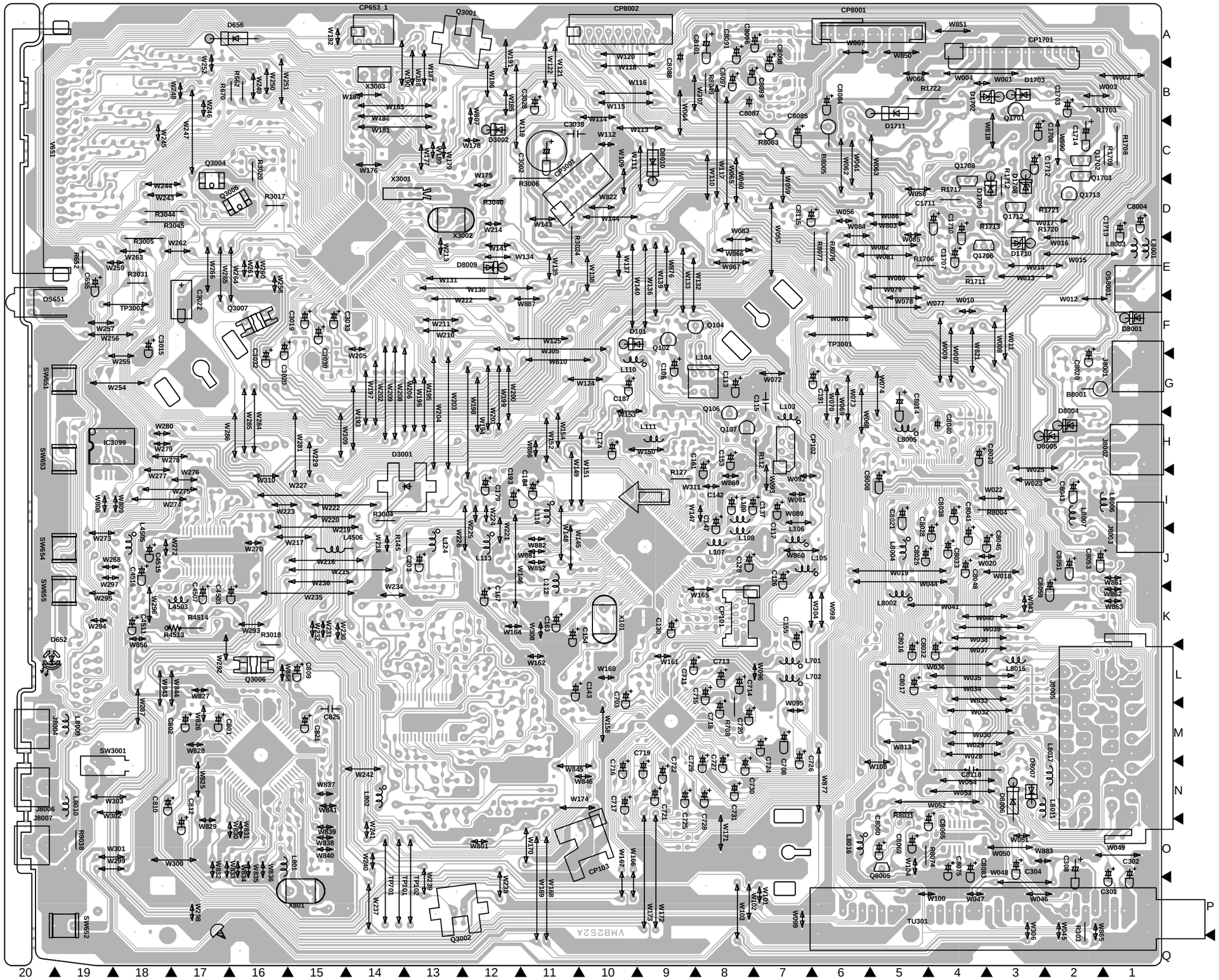
Note : The Parts Number, value and rated voltage etc.in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



NOTE: THE DC VOLTAGE AT EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK。

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE 。

PRINTED CIRCUIT BOARDS
VCR (INSERTED PARTS)
SOLDER SIDE


CP653_1
CP8002
CP8001
CP1701
Q3001
D656
X3003
X3001
X3002
Q3004
Q3005
Q3007
Q3006
Q3002
D3001
D3002
D8009
CP3001
D8010
Q1701
Q1702
Q1703
Q1708
Q1712
Q1713
D1703
D1711
D1709
D1710
D8001
D8004
D8005
D8006
Q8005
IC3099
SW651
SW652
SW653
SW654
SW655
SW3001
OS651
OS8001
X801
TU301
CP101
CP102
CP103
L8001
L8003
L8004
L8005
L8006
L8007
L8008
L8009
L8010
L8011
L8015
L8016
L8017
B8001
B8005
J8001
J8002
J8003
J8004
J8005
J8006
J8007
TP3001
TP3002
TP101
TP102
W851
W850
W867
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R3016
R3017
R3018

<VCR> VMB252A

REF.NO.	LOCATION
Q104	8F
Q105	9G
Q106	8H
Q107	8H
Q108	9H
Q110	9H
Q111	13J
Q113	9H
Q651	13A
Q653	18A
Q654	18A
Q655	17B
Q656	17B
Q657	18B
Q658	18B
Q659	19B
Q660	18B
Q661	18B
Q662	19C
Q663	18C
Q664	18C
Q665	19D
Q666	19D
Q667	18D
Q1701	3B
Q1702	2C
Q1703	2C
Q1705	4E
Q1706	4E
Q1707	4E
Q1708	4D
Q1709	4D
Q1711	4D
Q1712	3D
Q1713	2D
Q1714	2C
Q3001	13A
Q3002	13F
Q3003	13I
Q3004	17D
Q3005	16D
Q3006	16L
Q3007	16F
Q3008	15G
Q3009	15G
Q4501	18K
Q8001	2H
Q8002	2G
Q8003	3M
Q8004	3N
Q8005	5O
Q8006	5O
Q8012	7D
Q8013	7D
Q8014	6G
Q8015	6G

RESISTOR

R101	9F
R105	9F
R106	9G
R107	7I
R109	9G
R110	8H
R111	8H
R112	7H
R113	8J
R114	8J
R115	8I
R116	11L
R117	7I
R118	10L
R119	7K
R120	7L
R121	7K
R122	8I
R123	8H
R125	11K
R126	9H
R127	9I
R132	8H
R134	12K
R135	12K
R144	13J
R145	13J
R146	13J
R148	13K
R302	1P
R303	2P
R304	1P
R305	2P
R651	19L
R652	19E
R654	17A
R655	19H
R656	19B
R657	19H
R658	17B
R659	19B
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R661	19H
R662	16B
R663	19B
R664	19C
R665	19C
R666	14G
R667	14G
R668	19C
R669	19C
R670	16B
R674	19D
R675	19D
R678	17B
R701	9N
R702	17H
R705	9L
R706	9L
R707	9L
R708	8L
R709	8M
R710	9N
R711	8M
R712	9N
R713	8N
R714	10N
R715	10O
R716	9N
R717	9N
R718	9O
R719	9O
R720	9O
R721	9O
R812	16O
R814	15N
R815	16N
R816	16O
R1703	1B
R1706	4E
R1707	4E
R1708	1C
R1709	1C
R1711	4E
R1712	3C
R1713	3D
R1714	4E
R1715	4E
R1716	4E
R1717	4D
R1720	3D
R1721	2D
R1722	4B
R3001	11A
R3003	13P
R3004	14I
R3005	18E
R3006	11D
R3007	12C
R3008	13D
R3009	13D
R3010	14D
R3011	13D
R3012	17D
R3013	13C
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R3015	12I
R3016	17D
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R3018	16L
R3019	12I
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R3022	13I
R3024	11D
R3025	16C
R3026	16C
R3028	18F
R3029	18E
R3030	18E
R3031	18E
R3032	15D
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R3034	16C
R3035	16C
R3036	16C
R3037	16C
R3038	15F
R3039	15E
R3040	12D
R3041	15F
R3043	11E
R3044	17D
R3045	17D
R3046	13C
R3047	13B
R3048	13B
R3049	14B
R3050	14C
R3051	14C
R3052	13C
R3054	16E
R3055	12B
R4502	17K
R4503	16I
R4505	17K
R4508	17I
R4509	18K
R4510	18K
R4511	17I
R4512	18J
R4513	17K
R4514	17K
R8001	5H
R8002	2G
R8003	2H
R8004	3I
R8005	2G
R8006	2G
R8007	2G
R8009	2H
R8010	2H
R8013	1I
R8015	2I
R8017	2J
R8018	4N
R8019	5O
R8020	5O
R8021	3M
R8022	1N
R8023	1J
R8024	6O
R8025	5O
R8026	5O
R8027	1O
R8028	2O
R8029	3N
R8030	2K
R8031	5N
R8032	2K
R8033	5O
R8034	3K
R8035	3L
R8036	3L
R8037	4N
R8038	19O
R8040	2L
R8041	1K
R8042	4O
R8043	3L
R8044	4O
R8045	3L
R8046	4O
R8047	9B
R8048	9B
R8049	8B
R8050	8A
R8051	8A
R8052	8B
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R8054	8A
R8055	7B
R8056	7A
R8057	7A
R8058	7A
R8059	7B
R8060	7A
R8061	7B
R8062	7B
R8063	7C
R8067	10B
R8068	3M
R8070	5I
R8074	5O
R8075	4N
R8076	6D
R8077	6D
R8082	7D

SWITCH

SW651	19G
SW652	19P
SW653	19H
SW654	19J
SW655	19K
SW3001	19N

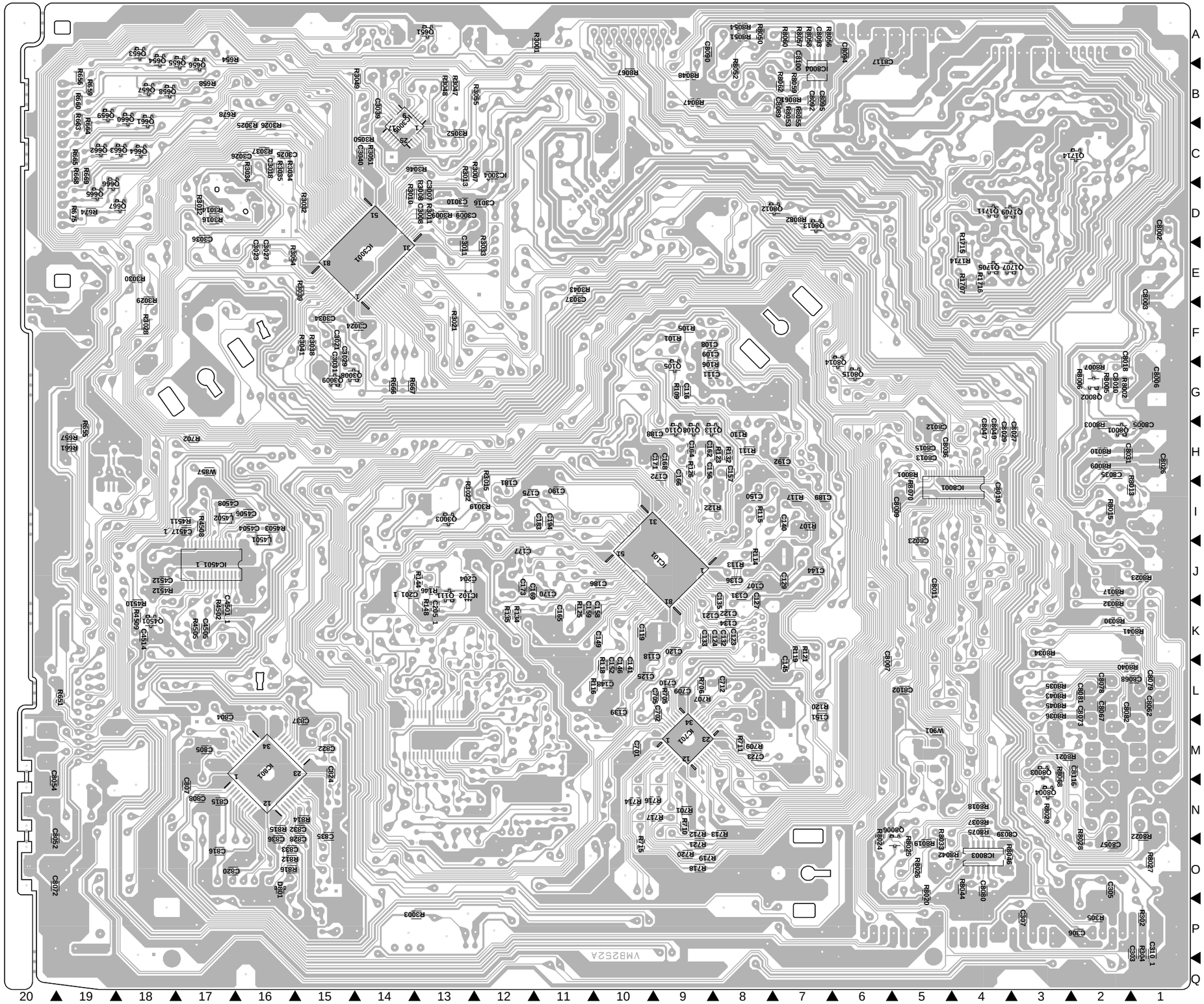
TEST POINT

TP101	14O
TP102	13O
TP701	14O
TP3001	5F
TP3002	18F

OTHER

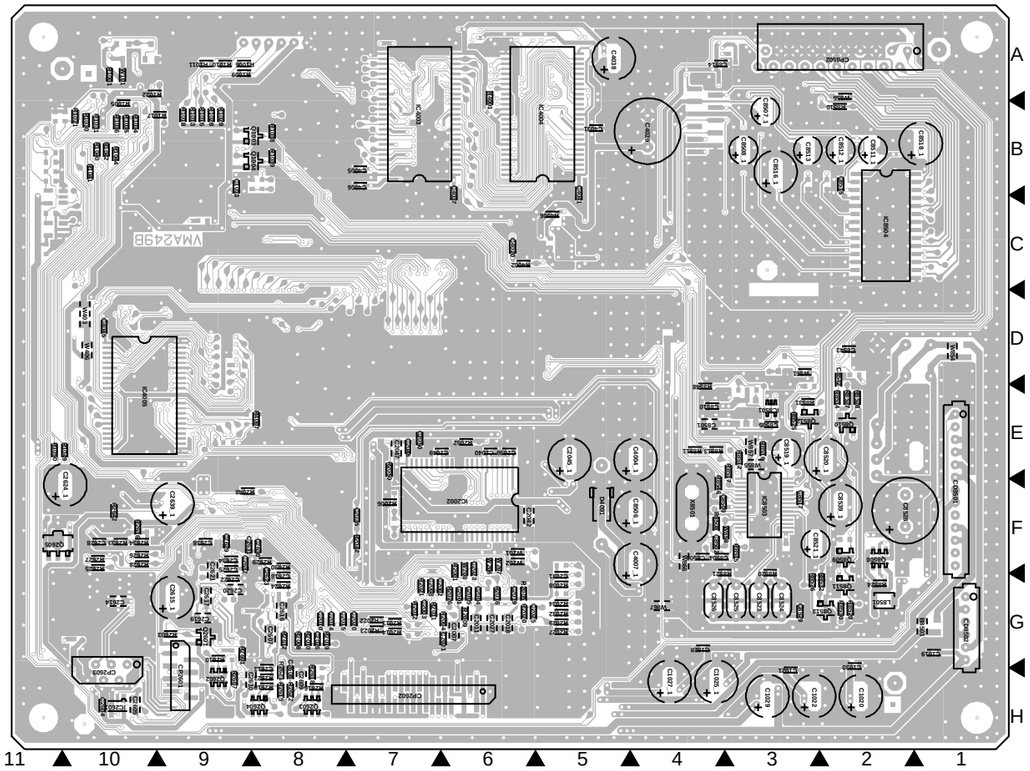
B8005	6C
CP101	8K
CP102	7H
CP103	10O
CP653_1	14A
CP1701	4A
CP3001	11D
CP8001	6A
CP8002	10A
J8001	1G
J8002	1H
J8003	1J
J8004	20M
J8005	1M
J8006	20N
J8007	20O
OS651	20F
OS8001	1E
TU301	1P
V651	19D
X101	10K
X801	15P
X3001	13D
X3002	13D
X3003	14B

PRINTED CIRCUIT BOARDS
VCR (CHIP MOUNTED PARTS)
SOLDER SIDE

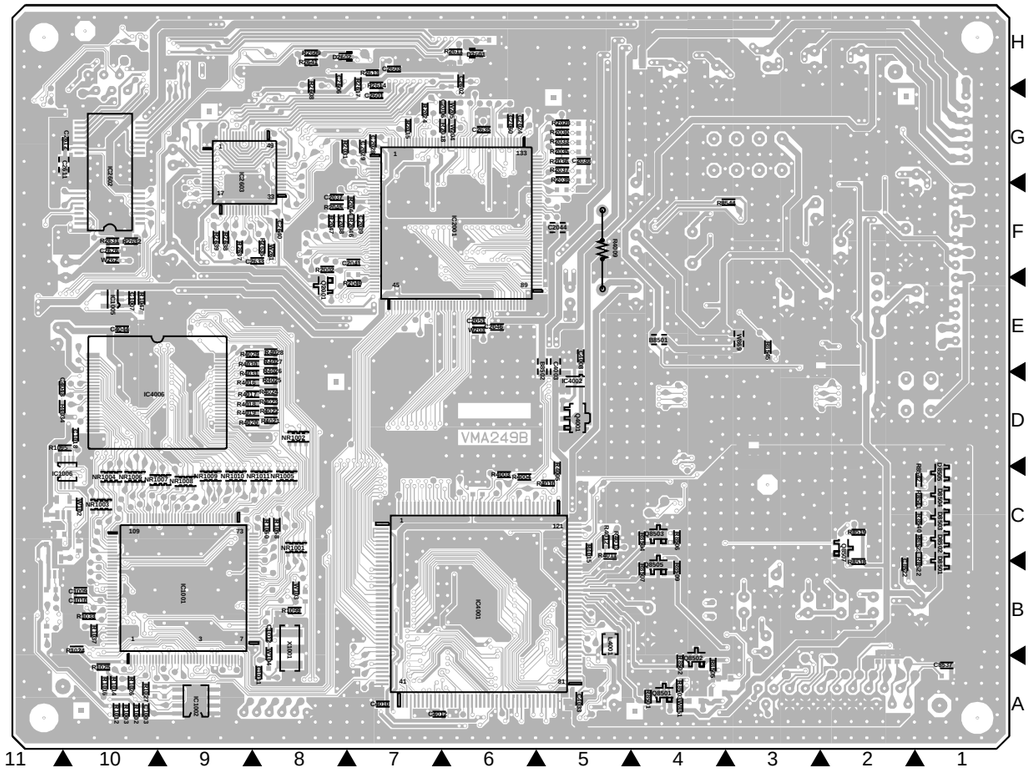


PRINTED CIRCUIT BOARDS
DVD

(TOP SIDE)



(BOTTOM SIDE)



COMPONENT PARTS LOCATION GUIDE <DVD> VMA249B

REF.NO.	LOCATION
CAPACITOR	
C1003	10A
C1007	10E
C1009	10B
C1010	10B
C1011	8A
C1012	8B
C1013	9B
C1018	10D
C1019	1G
C1020	2H
C1021	3H
C1022	3H
C1025_1	4H
C1027_1	4H
C1028	4G
C1029	3H
C1030	2G
C2001	6G
C2002	7G
C2003	7G
C2004	6G
C2005	6G
C2006	6G
C2007	6G
C2008	7G
C2010	8G
C2011	6G
C2014	8G
C2015	8G
C2018	6G
C2019	6G
C2020	7G
C2021	6G
C2023	6F
C2024	6G
C2025	6G
C2026	8G
C2027	6G
C2028	7G
C2029	7G
C2030	5G
C2031	5G
C2035	7F
C2036	6E
C2037	8F
C2038	8F
C2039	7F
C2040	6E
C2041	7F
C2042	6F
C2044	5F
C2045_1	5E
C2046	6E
C2047	7E
C2048	7E
C2049	6E
C2050	7E
C2051	6E
C2060	6G
C2601	7G
C2602	6H
C2603	7H
C2604	10H
C2605	10H
C2606	8H
C2607	8G
C2608	8H
C2609	8H
C2610	9H
C2611	10G
C2612	10G
C2613	8H
C2614	10G
C2615_1	9G
C2616	8G
C2617	9G
C2618	8G
C2619	9G
C2620	9G
C2621	9F
C2622	9G
C2623	8G
C2624_1	10F
C2625	9F
C2626	10F
C2628	10F
C2629	9F
C2630	8F
C2631	9F
C2632	9F
C2633	8F
C2634	9F
C2635	6G
C2638	9F
C2639_1	9F
C2640	8F
C4003	5E
C4004_1	4E
C4005	7B
C4006	7B
C4007_1	4F
C4008	5E
C4010	7A
C4012	7A
C4020	6C
C4029	4B
C4031	5B
C4033	5A
C4037	6B
C4038	5A
C4041	5B
C4044	10E
C4045	10D
C4048	11D
C8501	4E
C8502	4F
C8503	4F
C8504	4F
C8505	3E
C8506_1	4F
C8507_1	3B
C8508_1	3B
C8509	4F
C8510	4E
C8511_1	2B
C8512_1	2B
C8513	3B
C8514	4A
C8515	2B
C8516_1	3B
C8517	3F
C8518_1	1B
C8519_1	3E
C8520_1	2E
C8521_1	3F
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C8526	4G
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C8529	3G
C8537	1A
C8539_1	2F
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C8543	2D
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D2601	6H
D2602	8H
D4001	5E
D8501	1B
D8502	1C
D8503	1C
D8504	1C
D8505	1C
IC	
IC1001	9B
IC1002	9A
IC1005	10E
IC1006	10C
IC2001	6F
IC2002	6F
IC2601	10H
IC2602	10G
IC2603	9G
IC4001	6B
IC4002	5D
IC4003	7B
IC4004	5B
IC4005	10E
IC4006	10D
IC8501	3E
IC8503	3F
IC8504	2C
COIL	
L4001	5B
L8501	2G
TRANSISTOR	
Q1003	8B
Q1004	8B
Q2001	8E
Q2601	9G
Q2602	9H
Q2603	8H
Q2604	8H
Q2605	11F
Q4001	5D
Q8501	4A
Q8502	4A
Q8503	4C
Q8505	4B
Q8507	2C
Q8508	2F
Q8509	2F
Q8510	2E
Q8511	2G
Q8512	3E
Q8513	2G
RESISTOR	
R1001	10A
R1002	10A
R1003	10A
R1005	10B
R1006	9A
R1009	9A
R1010	9A
R1011	9A
R1012	10A
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R2617	7H
R2618	8H
R2619	8H
R2621	8H
R2622	8H
R2623	8H
R2624	8G
R2625	10F
R2626	10F
R2627	10F
R2628	10F
R2629	8F
R2630	8F
R2631	10F
R2632	10F
R2633	10F
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R2636	10F
R2637	9F
R2638	9F
R2639	9F
R2641	8H
R2642	10F
R4001	6A
R4002	6C
R4003	6C
R4004	6C
R4005	5C
R4006	5C
R4007	8E
R4009	5F
R4010	5C
R4011	5C
R4012	5C
R4013	5C
R4015	5C
R4016	9D
R4017	9D
R4018	9D
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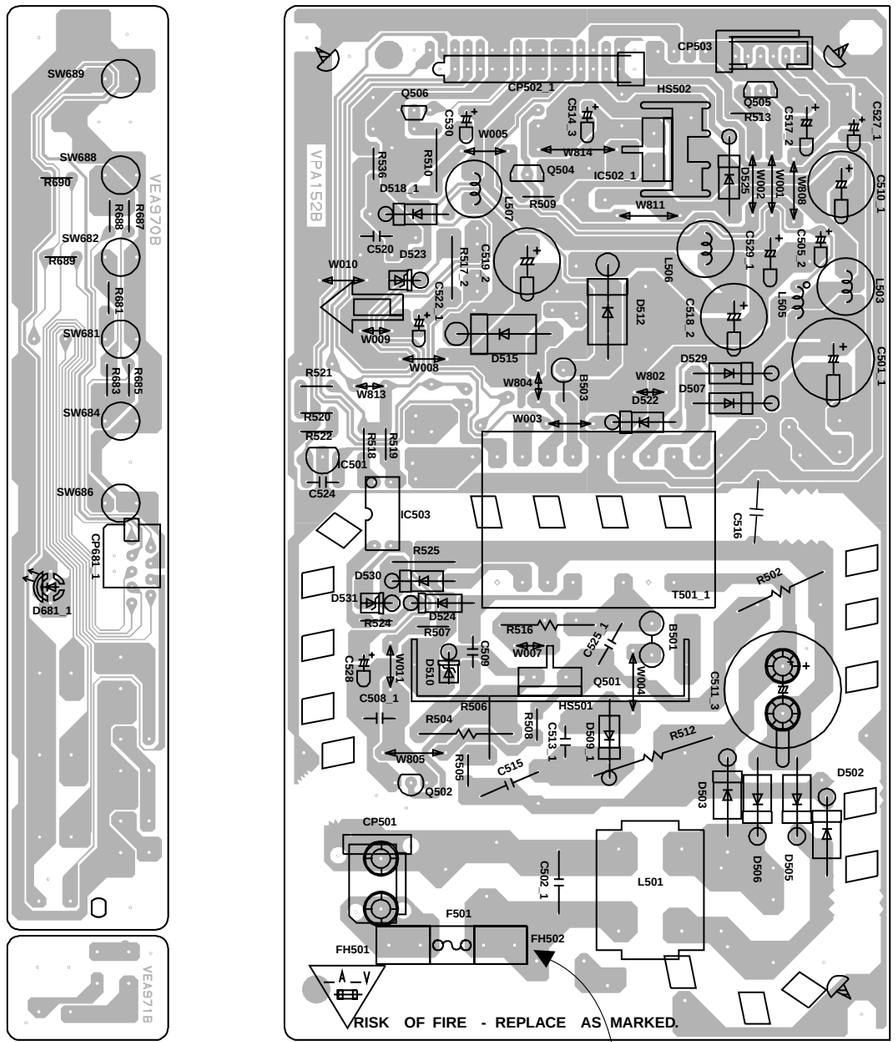
R8545	3E
R8546	4F
R8548	4E
NR1001	8C
NR1002	8D
NR1003	10C
NR1004	10C
NR1005	8C
NR1006	10C
NR1007	9C
NR1008	9C
NR1009	9C
NR1010	9C
NR1011	8C
OTHER	
B8502	5E
B8503	1G
CD8501	1E
CD8502	1G
CP2601	9H
CP2602	7H
CP2603	10G
CP8502	2A
JG2601	8H
JG2602	8H
JG2603	6H
JG2604	6H
X1001	8B
X8501	4F

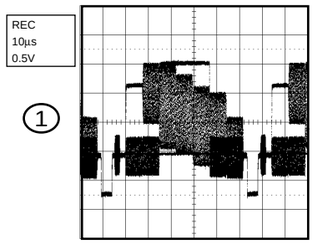
PRINTED CIRCUIT BOARDS
POWER / OPERATION
SOLDER SIDE



DANGEROUS VOLTAGE

WAVEFORMS

Y/C/AUDIO/HEAD AMP



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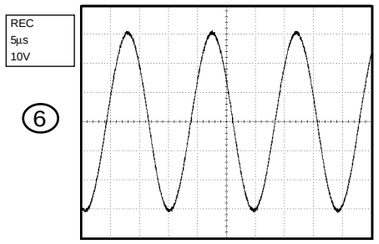

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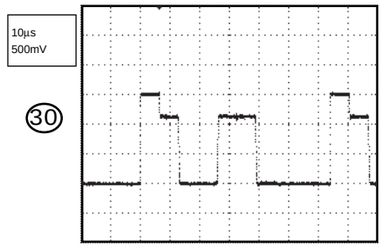

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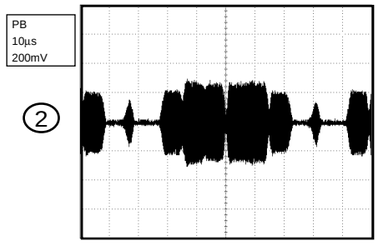

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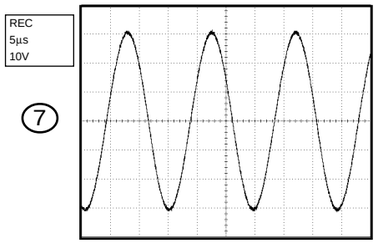

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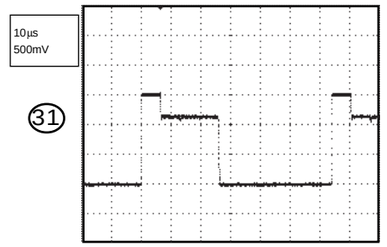

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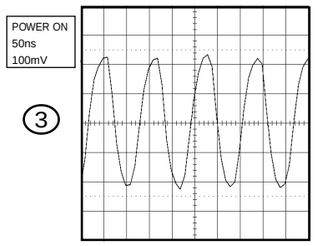
MICON



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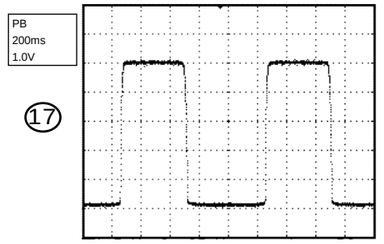

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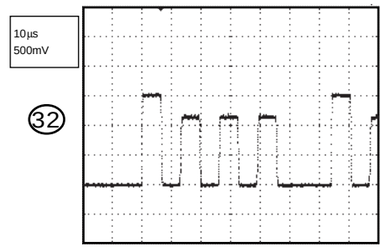

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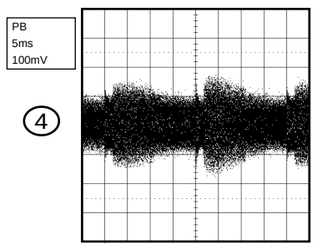

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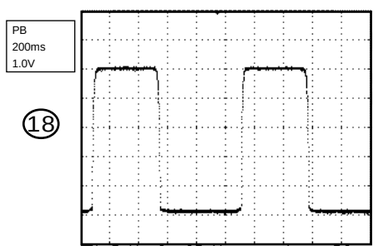

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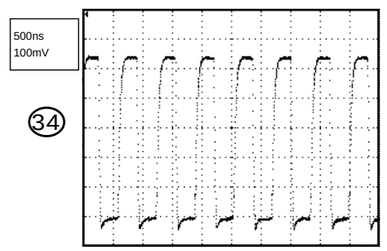

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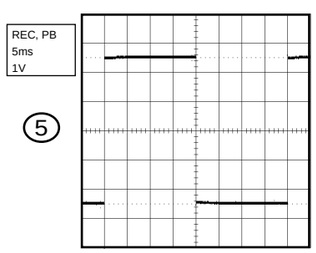
TUNER/JACK



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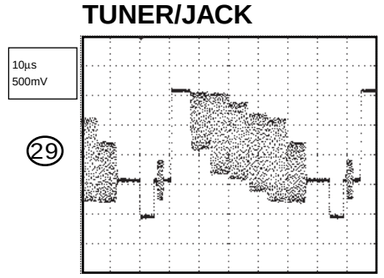

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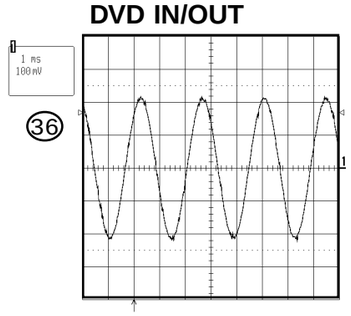
DVD IN/OUT



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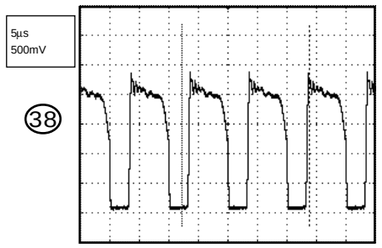
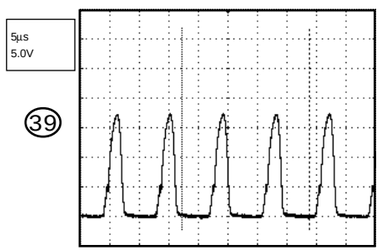
NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

WAVEFORMS

POWER

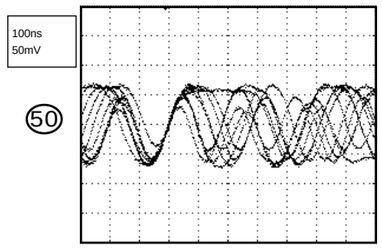


38

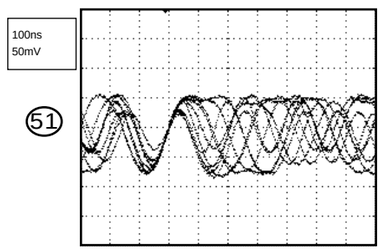


39

READ CHANNEL

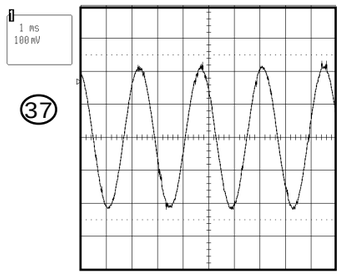


50



51

DSP



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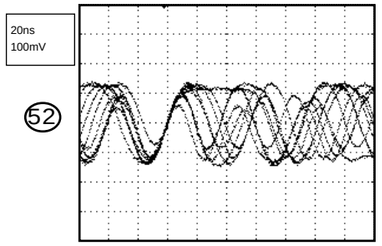
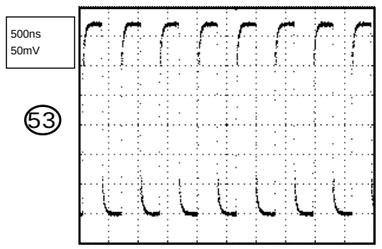
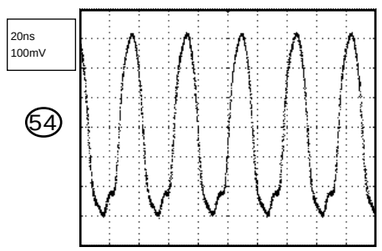


52

MPEG

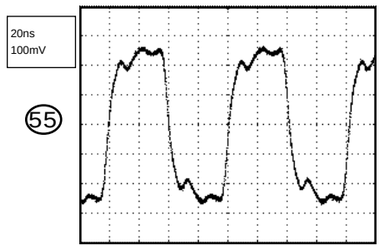


53

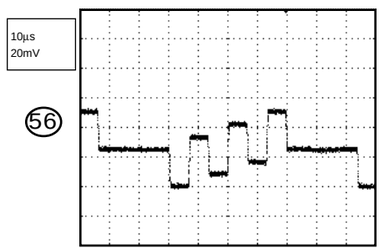


54

MEMORY

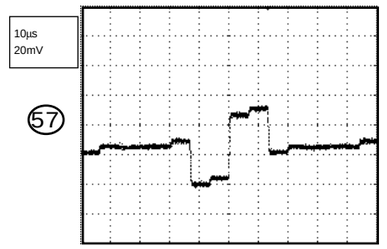


55



56

AUDIO/VIDEO



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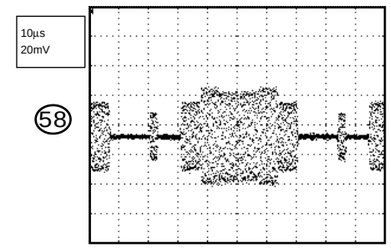

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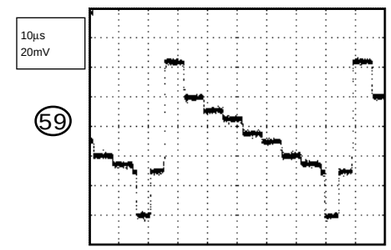

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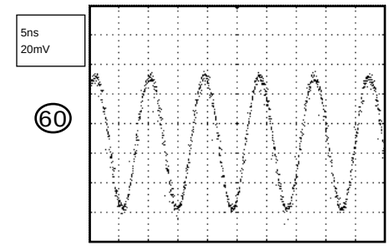

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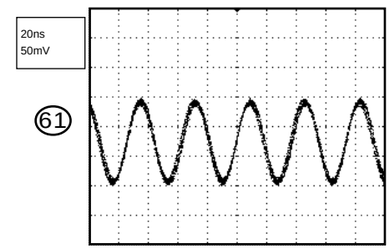

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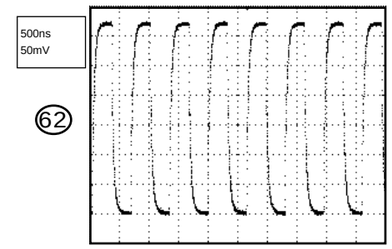
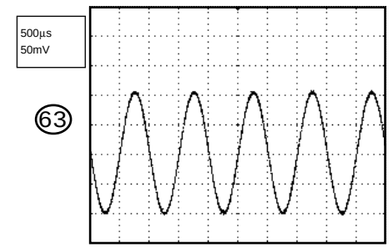
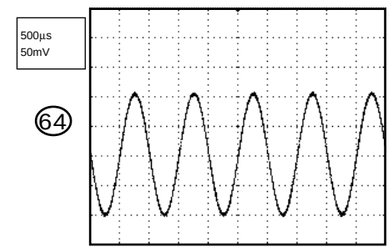


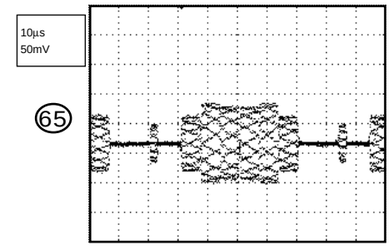
62



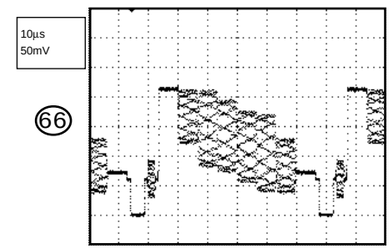
63



64



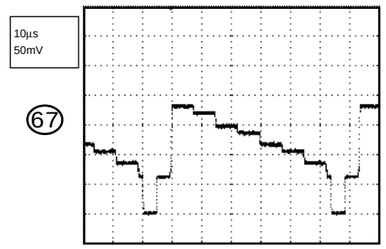
65



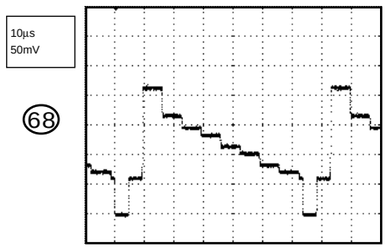
66

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

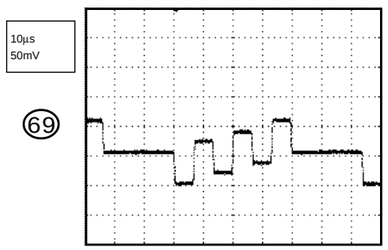
WAVEFORMS



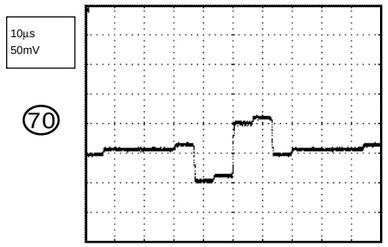
67



68

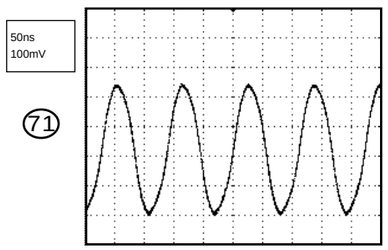


69



70

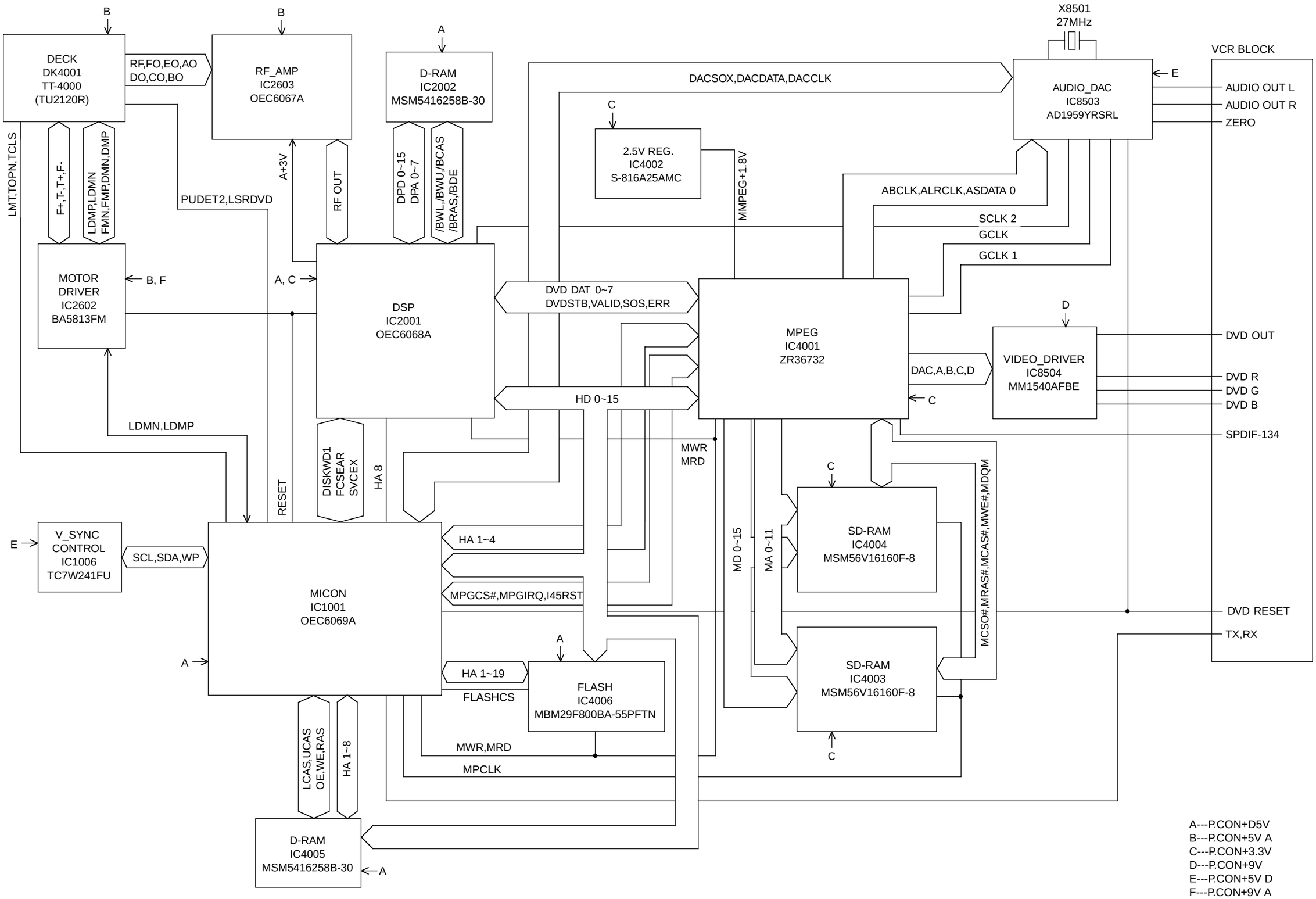
SYSCON1



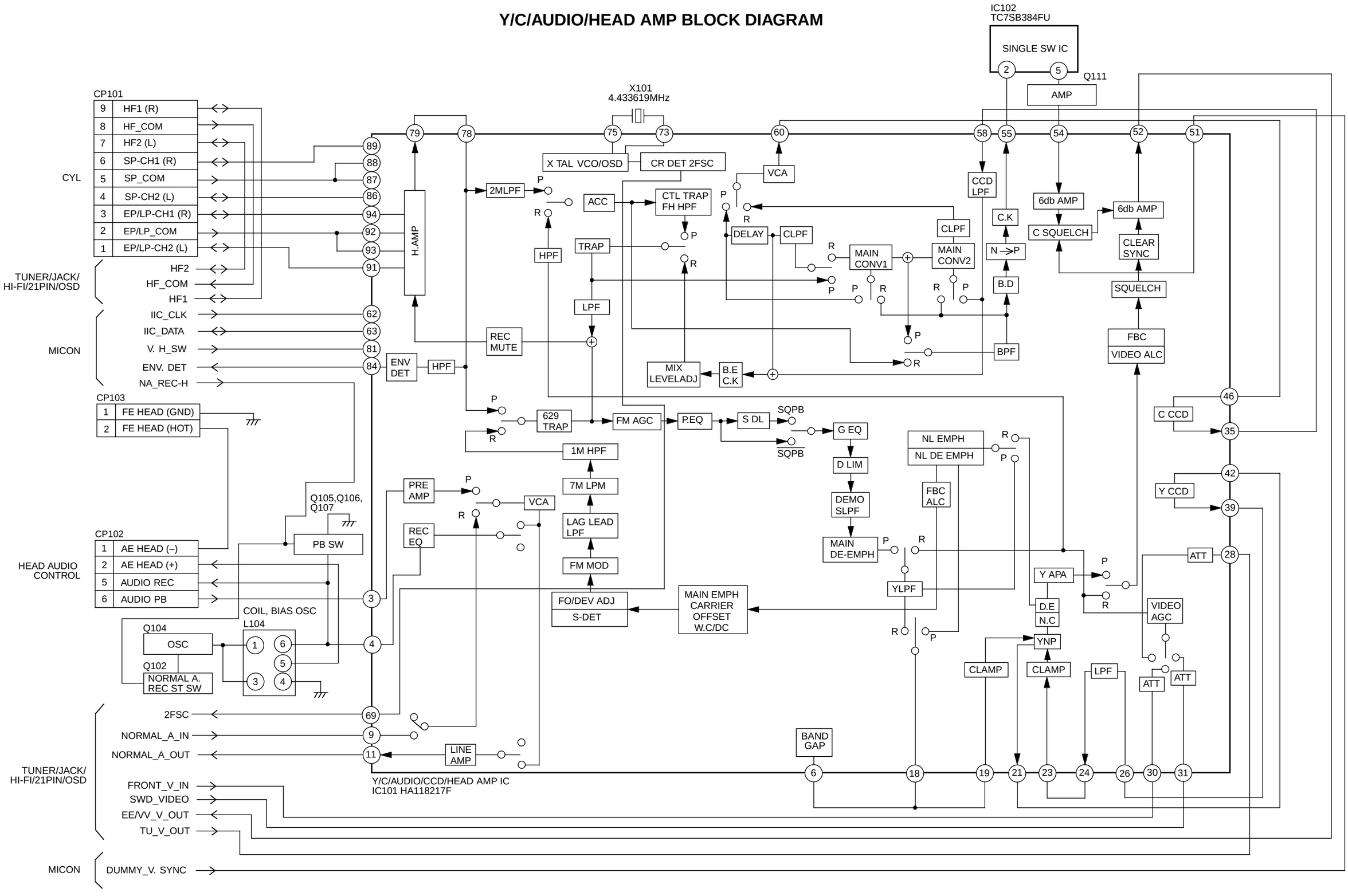
71

NOTE: The following waveforms were measured at the point of the corresponding balloon number in the schematic diagram.

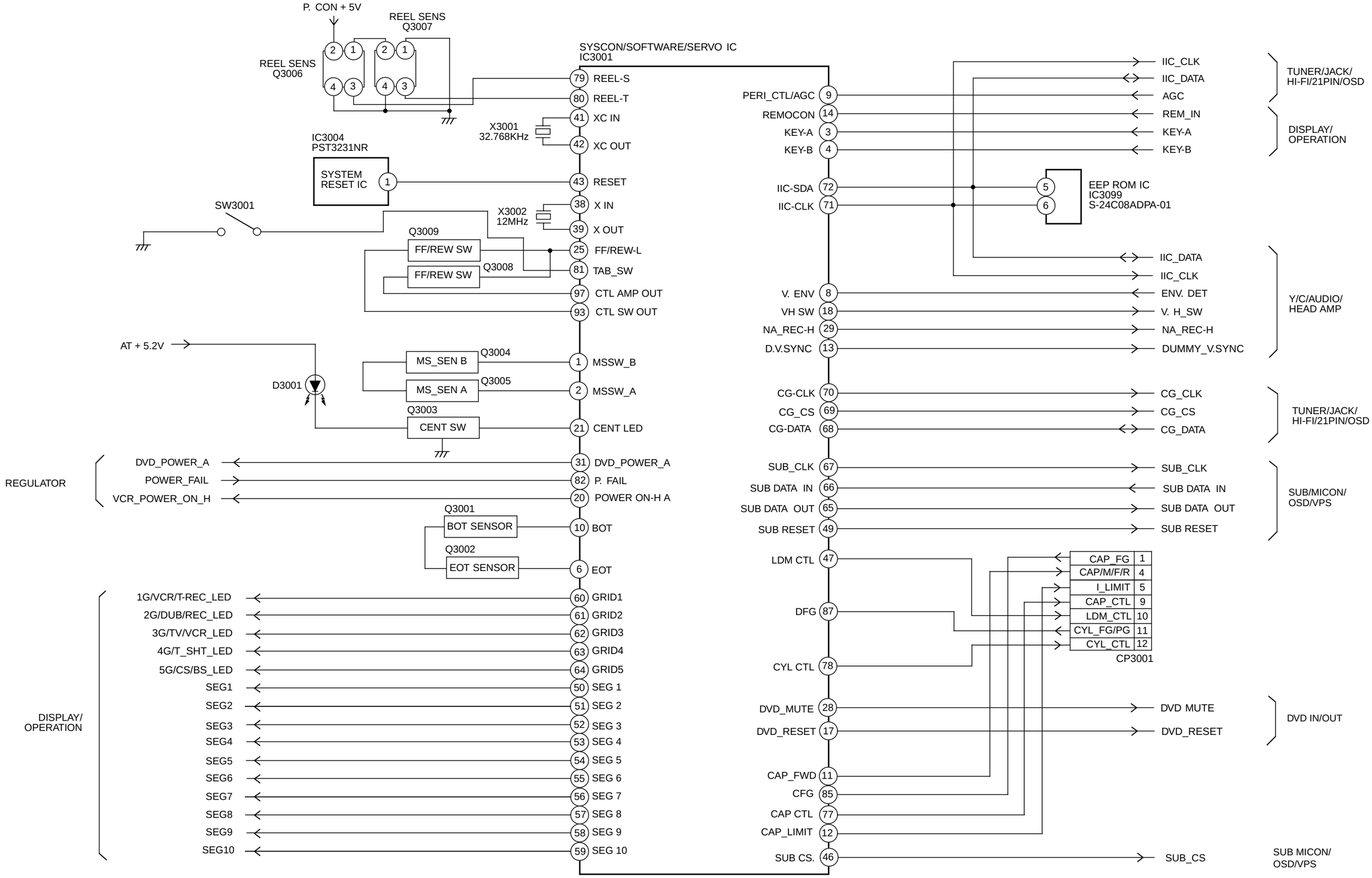
DVD BLOCK DIAGRAM



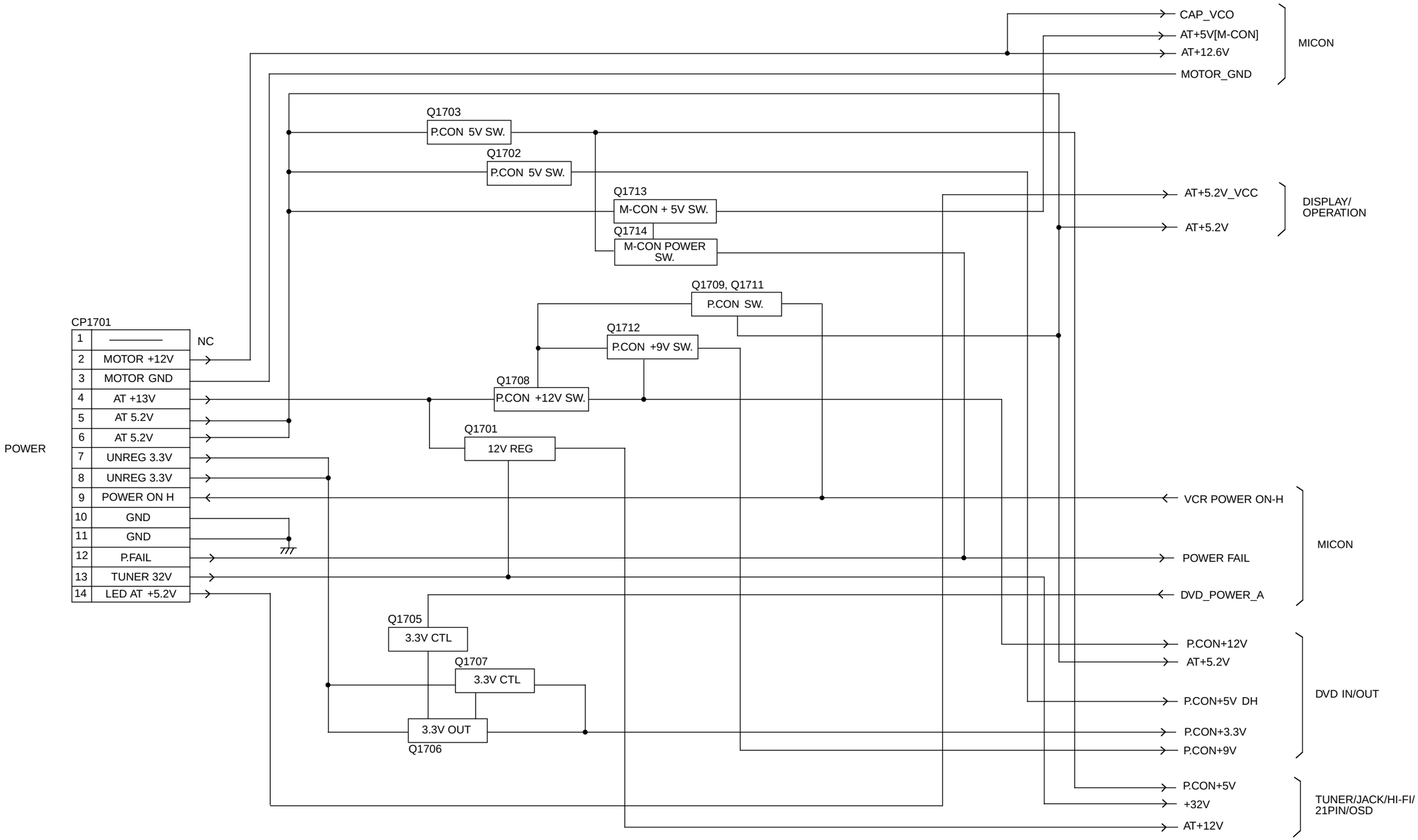
Y/C/AUDIO/HEAD AMP BLOCK DIAGRAM



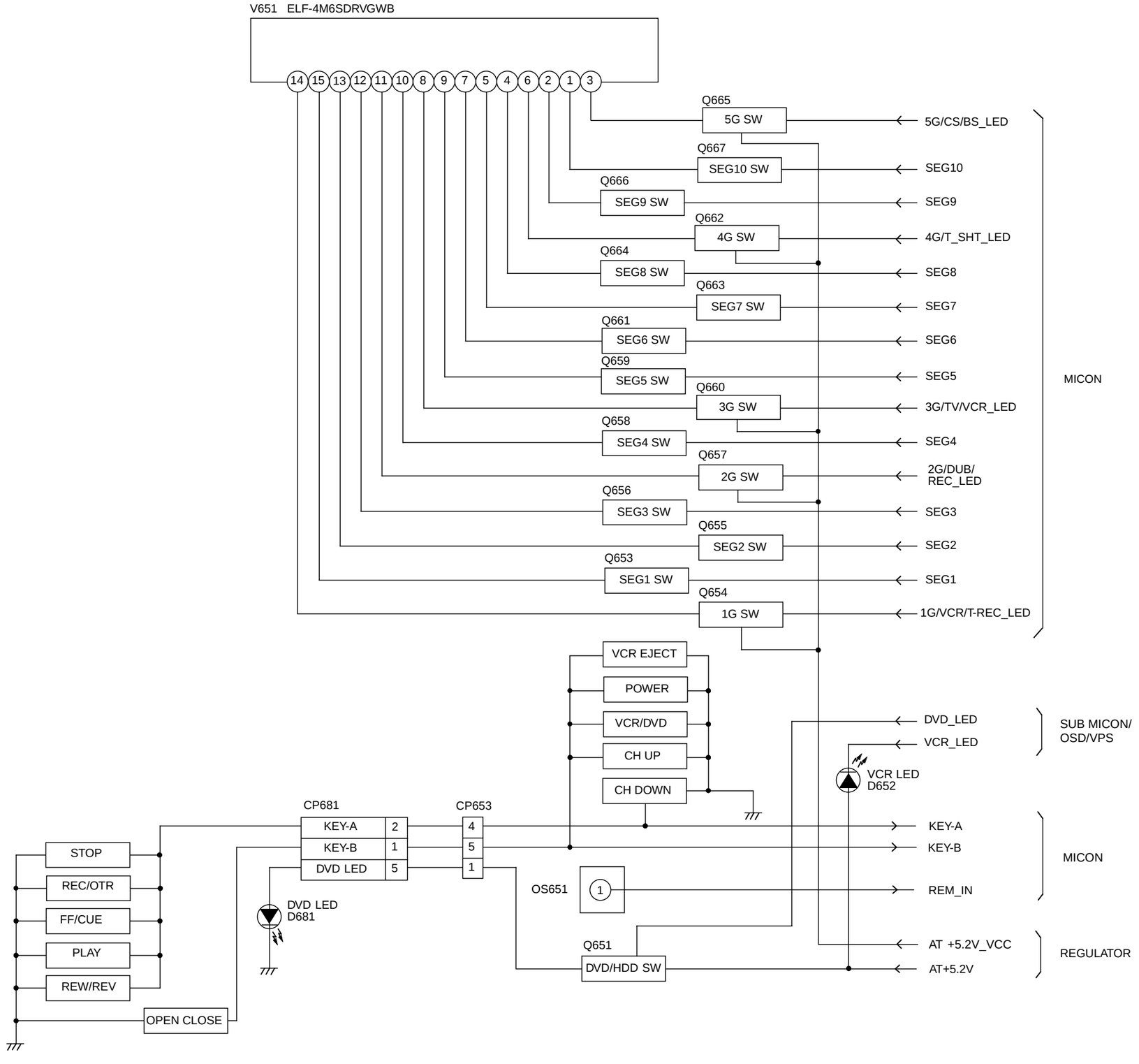
MICON BLOCK DIAGRAM



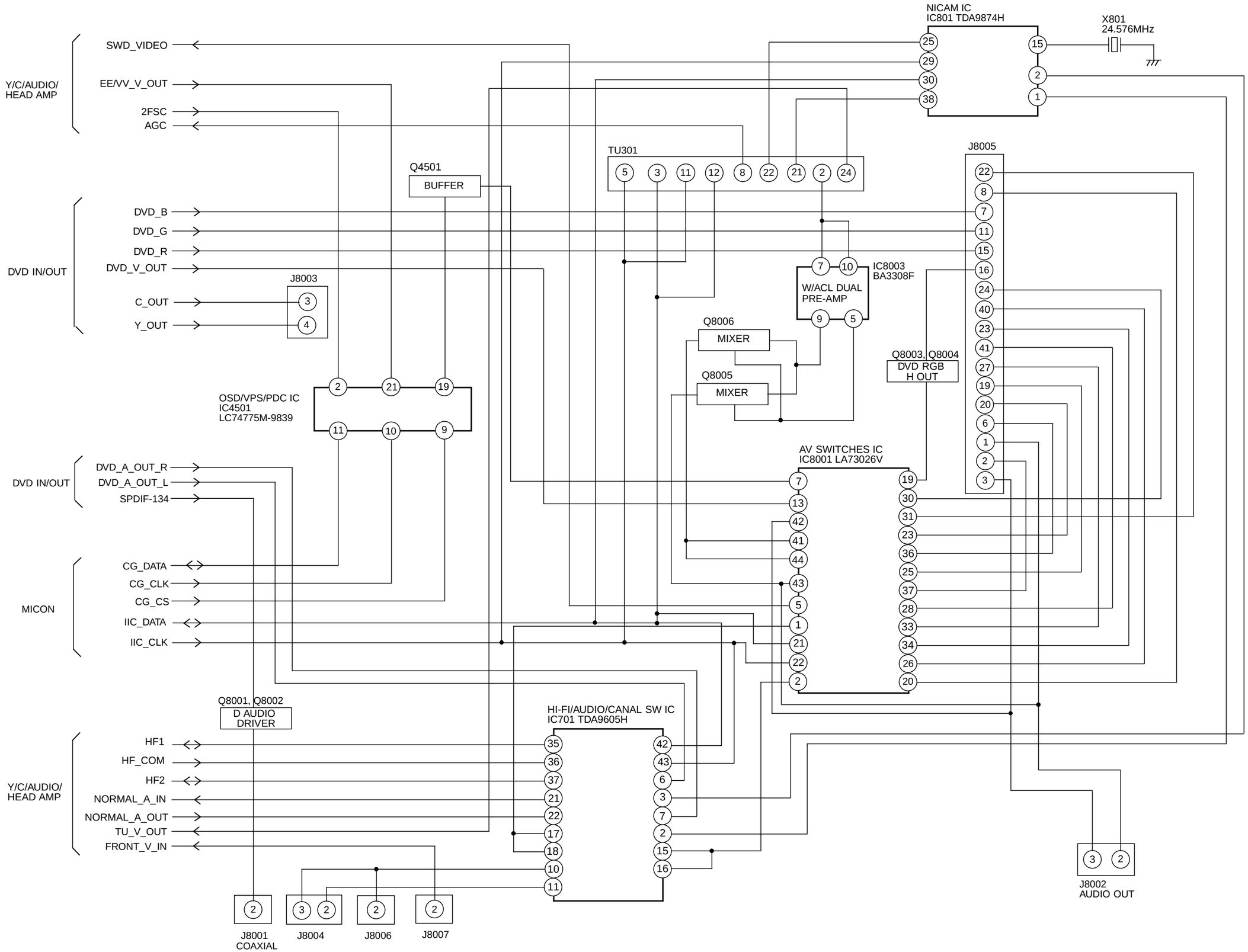
REGULATOR BLOCK DIAGRAM



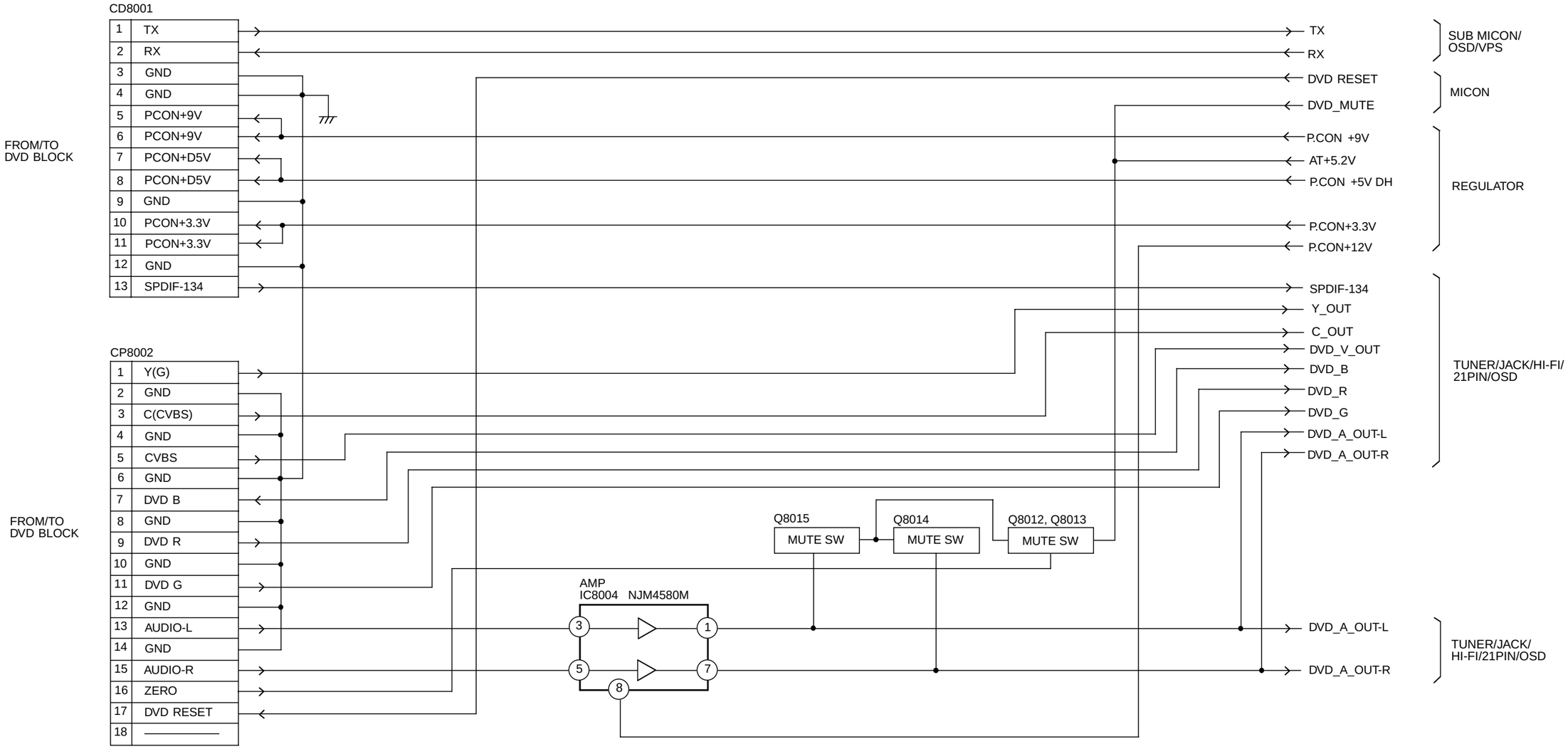
DISPLAY/OPERATION BLOCK DIAGRAM



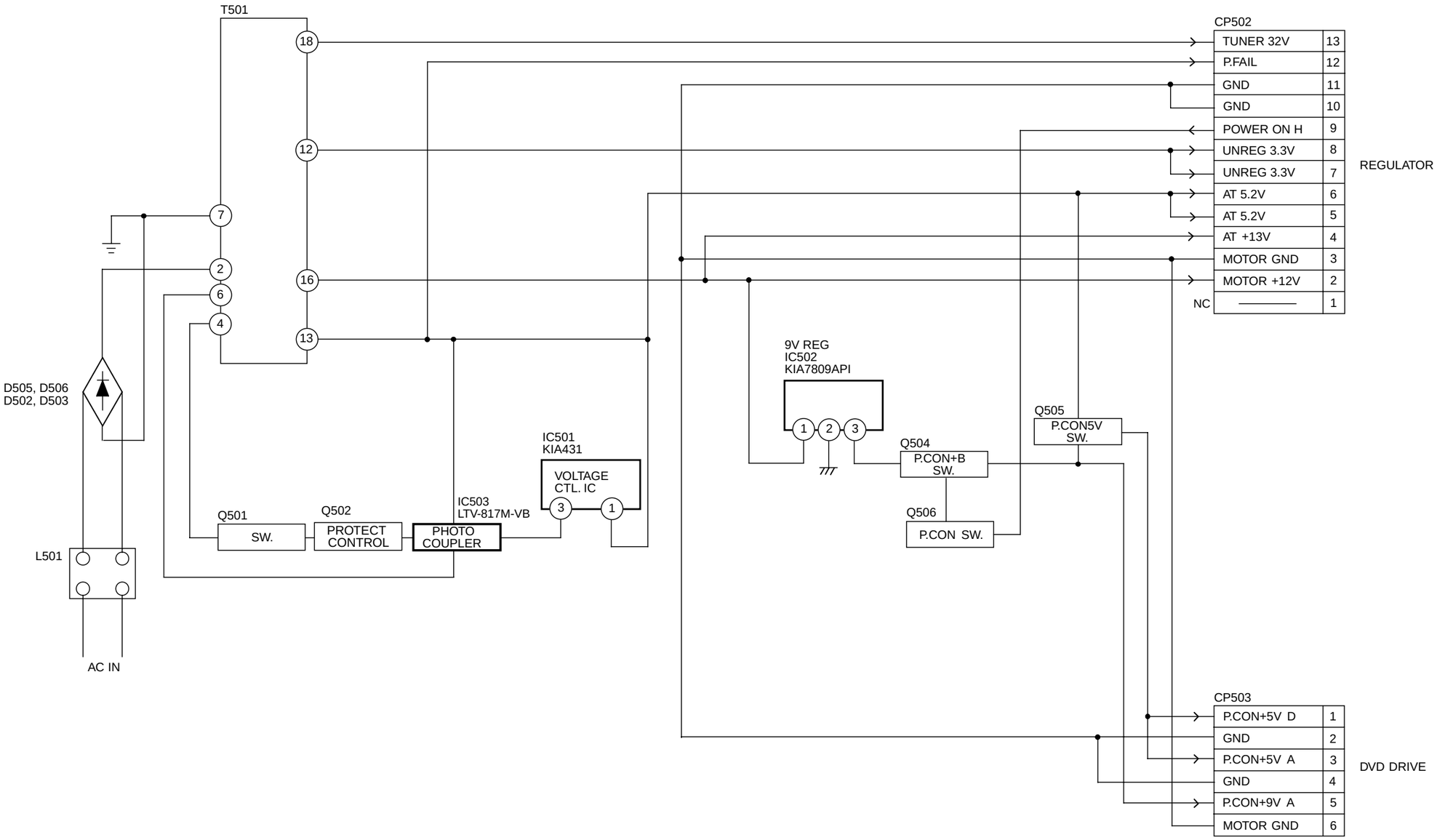
TUNER/JACK/HI-FI/21PIN/OSD BLOCK DIAGRAM



DVD IN/OUT BLOCK DIAGRAM



POWER BLOCK DIAGRAM



SUB MICON/OSD/VPS BLOCK DIAGRAM